OCEANSIDE
ECONOMIC BASELINE STUDY

FINAL REPORT

ECONOMIC BASELINE STUDY

Prepared for:

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EXECUTIVE SUMMARY

The purpose of this study is to determine the current economic base characteristics of the Oceanside economy. By identifying the most significant sources of economic activity within the Oceanside area, the analysis should prove to be especially useful to the Redevelopment Agency's plans for downtown area redevelopment and to the City's overall planning efforts.

Major findings of this study include the following:

- The Oceanside economic structure is closely tied to the surrounding area. This interrelationship occurs because of the military/government sector's linkage to households and firms outside the City.
- The socioeconomic data reveal the powerful influence of the military on the Oceanside economy. Approximately, one out of every five household heads in the City are in the military. Over 72 percent of all military households reside in multi-dwelling units.
- Oceanside households have significantly lower median incomes than households in the County as a whole.
- Sixty percent of household heads in Oceanside are employed outside the City.
- Only 47 percent of homeowners in Oceanside make mortgage payments over $300 per month, reflecting relatively low-priced housing.
- Approximately 25.4 percent of household heads are retired in Oceanside, compared to 19.7 percent for the County as a whole.

- Shopping habits of Oceanside residents reveal that 65 percent of all retail purchases are made outside the City. Nearly 26 percent of all retail purchases are made at Plaza Camino Real in Carlsbad.

- As household incomes in Oceanside rise, fewer and fewer purchases can be expected to be made within the City.

- The City of Oceanside has experienced only a 47.4 percent growth in taxable retail sales during the 1970-1975 time period, while 228.1 and 72.5 percent gains have been achieved by Carlsbad and San Diego County, respectively.

- Oceanside's industrial mix is not dominated by a single industry, but is characterized by moderately-sized firms which appear to be interdependent.

- Approximately 84 percent of the firms in Oceanside have retail sales of less than $500,000. The average working space reported is 2,801 square feet.

- The bulk of Oceanside's firms have one to three full-time employees.

- From economic base analysis, it was found that every additional dollar of non-local sales generates 1.76 dollars for the entire City. In addition, every additional job created in the non-local sector creates three tenths of a job in the local sector.

- From the input-output model, the construction industry exerts the strongest influence on the Oceanside economy, while the agricultural sector exerts the weakest influence.

- The Oceanside economy would not be severely impacted by growth in a single sector.

- The Oceanside economic structure is directly intertwined with the economic structure of the region.

These and other findings are reported in greater detail in the following report.

CHAPTER 1

INTRODUCTION

The objective of this study is to determine the current economic base characteristics of the Oceanside economy. In identifying the most significant sources of economic activity in the area, the analysis should prove to be especially useful to the Redevelopment Agency's plans for downtown area redevelopment and to the City's overall planning efforts.

Two additional features of the study center around Oceanside's economic potential and the introduction of new businesses into the area. First, the economic base data provide the information needed to ascertain the economic potential characteristics of the City of Oceanside. This economic potential can then be intelligently coupled with the City's General Plan policies. Second, regarding the new economic activity, the economic profile of Oceanside afforded by this study should provide the useful and requisite input needed by prospective new businesses interested in an Oceanside location. The data can also be a major input in the development of new marketing strategies for existing businesses. In essence, then, the thrust of this study is to provide an overall profile of the Oceanside economy.

In developing this analysis of the Oceanside economy, Copley International Corporation categorized its research into four major areas:

- Socioeconomic profile of Oceanside households
- Profile of Oceanside firms
- Economic base analysis
- Input - Output model

Each of these major areas of analysis is structured as follows in the text.

SOCIOECONOMIC PROFILE OF OCEANSIDE HOUSEHOLDS

Detailed descriptions of the socioeconomic characteristics of Oceanside households are provided in Chapter 2. Comparisons between Oceanside and San Diego County residents are given there, as well as a separate demographic analysis of military and retired households. The latter group represents a large and significant proportion of the population of Oceanside. Overall employment patterns and shopping habits of Oceanside households are additionally delineated in the chapter in terms of location. These results provide a detailed portrayal of Oceanside's socioeconomic characteristics.

PROFILE OF OCEANSIDE FIRMS

Oceanside's major industries are next analyzed in the first part of Chapter 3 in order to provide a general economic description. The major sectors are reviewed in terms of the following areas of analysis: employment in each industry (including military employment), square footage, total sales, the distribution

of sales by types of consumers, purchases by industry, and industry importing factors. The resultant description of the major sectors gives the reader background information on each industry before exploring the third major area of analysis -- the economic base analysis.

ECONOMIC BASE ANALYSIS

The theory of economic base analysis introduced in the second part of Chapter 3 outlines Oceanside's economic base according to the following criteria:

- Employment multiplier
- Sales multiplier
- Imports versus exports

The economic base analysis delineates the current economy in terms of a general model. It must be realized, however, in reviewing the model that many exogenous variables may apply within the framework of general underlying economic trends.

INPUT-OUTPUT MODEL

The estimated input-output model of Oceanside is presented in Chapter 4. The model gives a quantitative description of the interdependence that exists between the City's major industrial sectors. The information contained within the model not only deals with the detailed relationships found among each major sector, but also examines the final consumer of Oceanside's output. In addition, the input-out model will be used to identify the economic impacts of specified City policies.

Finally, Chapter 5 presents a discussion of tourism and its potential in the City. In addition several descriptive appendices are included in order to provide insights into the study Methodology.

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CHAPTER 2

SOCIOECONOMIC CHARACTERISTICS

INTRODUCTION

The socioeconomic characteristics of Oceanside households have been reviewed in this chapter. These socioeconomic data were compared in most instances to County resident data in order to provide a common framework of analysis. The major sources of analysis in this regard were the 1975 Special Census, 1977 Oceanside Household Survey, and the CASH survey.*

Copley International Corporation's Statistical Package for the Social Sciences (SPSS) was also used to perform selected cross-tabulations of Oceanside households. This process was especially significant where data were not available from CPO or other government agencies. An original data collection effort (the 1977 Oceanside Household Survey) was another useful study input that was undertaken to secure additional income and employment information. Finally, data on relevant shopping patterns of Oceanside households were obtained through the CASH survey mentioned above. Each month, in this survey, a random sample of County households was interviewed, providing information such as:

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*Continued Analysis of Shopping Habits (CASH), Union-Tribune Marketing Services, 1974-1976.

- The name and location of retail outlets visited during the prior month.
- The type and number of purchases bought at each outlet.
- The socioeconomic characteristics of each household.

From this data base, information was available for the analysis of Oceanside households during the 1974-1976 period.

The chapter has been divided into four sections as follows: general demographic characteristics of Oceanside residents; income and employment pattern data; analysis of the socioeconomic characteristics of military and retired households; and, finally, shopping habits of Oceanside households to include the military and retired population. Retail sales growth in Oceanside is also evaluated and compared to Carlsbad and San Diego County in the last section.

POPULATION DEMOGRAPHICS

Population Growth

The City of Oceanside has experienced rapid population growth during the last decade. A significant portion of this growth, 71 percent, has occurred between 1970 and 1975. Compounded annual rates of growth for the City of Oceanside and other selected cities in San Diego County have been tabulated in Table 2.1. As the table's final column indicates, Oceanside had a 6.3 percent compounded growth rate over the last five years. This rate is higher than that found for cities of comparable size, and is overshadowed only by the smaller

Table 2.1

Selected Study Area
Population Growth Rates
1965-1975

City	Total Population 1965	Total Population 1970	Total Population 1975	Annual Growth 1965-1975	Compounded Rates 1970-1975
Oceanside	34,550	40,450	54,900	4.7%	6.3%
Escondido	26,150	37,500	50,500	6.8	6.1
La Mesa	35,400	39,300	46,800	2.8	3.6
National City	34,900	42,900	43,700	2.3	0.4
Vista	19,700	24,700	29,700	4.2	3.8
Carlsbad	12,500	14,200	20,500	5.1	7.6

Source: San Diego County Planning Department
Copley International Corporation

City of Carlsbad.

Age and Sex Composition

The distribution of Oceanside residents by age and sex is presented in Table 2.2. Comparisons with the County indicate that the City of Oceanside has a disproportionate share of household population between the ages of 15 through 24 and over 65. These differences to a large extent are due to the presence of military and retired households, respectively. The impact of these two household types on the population age structure and other selected demographic variables will be further examined in section three, covering military and retired households.

The proportion of males to females in the Oceanside population is similar to that of San Diego County. However, the median age of Oceanside residents, 26.5 years, is two years younger than the associated County figure, 28.6 years. In terms of age distribution, the lower Oceanside median age figure is the result of a predominantly younger military population.

Race and Education

Table 2.3 portrays the relative racial distribution of Oceanside residents, as derived by the 1975 Special Census conducted in April 1975 by the State Department of Finance. Examination of Table 2.3 indicates that the City of Oceanside has a larger proportion of non-white minorities compared to its sister

Table 2.2

Distribution of Oceanside Residents
By Age and Sex

Age	Oceanside	San Diego County
0-14 years	24.9%	24.2%
15-24 years	23.1	19.2
25-64 years	40.4	47.2
65 years and over	11.6	9.4
	100.0%	100.0%
Median age (years)	26.5	28.6
Percent male	49.6%	49.6%
Median age (years)	25.1	27.8
Percent female	50.4%	50.4%
Median age (years)	27.9	29.4

Source: 1975 Special Census
Copley International Corporation

Table 2.3

Distribution of Household Population By Race

Race	Oceanside	Carlsbad	Escondido	San Diego County
White	84.6%	89.0%	93.0%	87.5%
Black	5.2	0.7	0.2	4.1
Latino	7.2	7.8	5.5	5.8
Oriental	1.8	0.9	0.5	1.7
Other	1.2	1.6	0.8	0.8
	100.0%	100.0%	100.0%	100.0%

Source: 1975 Special Census
Copley International Corporation

cities and the County. Black and Latino households combined represent more than 12 percent of all Oceanside households, in contrast to 8.5, 5.7 and 9.9 percent in Carlsbad, Escondido and San Diego County, respectively. Much of this difference is attributed to the larger proportion of military related population in Oceanside relative to the other areas.

The educational attainment of Oceanside household heads has been compiled in Table 2.4. More than 75 percent of this group have graduated from high school and 22 percent have had 1-3 years of college education.

Housing Patterns

Analysis of residential housing patterns (Table 2.5) indicates that the City of Oceanside has a disproportionate share of multi-dwelling units compared to the County. Only 44 percent of all Oceanside household heads reside in single-family dwellings compared to 60 percent for the County as a whole. The greater demand for multi-dwelling units in Oceanside is most likely a reflection of the large number of military households located in the City. Due to the uncertainty of their length of residence in the area, they seem to prefer to rent housing rather than purchase it.

The impact of the military is also seen in the length of residence data. The median length of residence for household heads in Oceanside is 4.8 years compared to 7.3 years for the County (Table 2.6). Of additional significance is the fact that over 61 percent of Oceanside household heads have migrated

Table 2.4

Distribution of Educational Attainment of Household Heads

Education	Percent
6th grade or less	2.4%
7th to 11th grade	18.3
High school graduate	40.5
1-3 years college	22.5
College graduate	7.5
Post-graduate studies	5.8
Trade school	3.0
	100.0%

Source: 1977 Oceanside Household Survey
Copley International Corporation

Table 2.5

Distribution of Occupied Housing

Housing Type	Oceanside	San Diego County
Single family	44.0%	60.7%
Duplex	11.9	6.7
Triplex	2.7	1.2
Fourplex	7.5	3.9
5 or more units	23.2	10.7
Mobile home	9.1	6.2
Hotels/motels, etc.	1.6	0.7
	100.0%	100.0%

Source: 1975 Special Census
Copley International Corporation

Table 2.6

Distribution of Household Heads
By Length of Residence

Length of Residence	Oceanside		San Diego County	
Since birth		2.9%		4.5%
Less than one year		22.7		16.2
Prior in County	8.1%		7.6%	
Prior outside County	14.6		8.7	
1-5 years		36.0		31.0
Prior in County	13.2		14.5	
Prior outside County	22.8		16.5	
6-14 years		21.1		20.1
Prior in County	2.1		8.5	
Prior outside County	14.0		11.7	
15 years or more		17.3		28.1
Prior in County	7.4		18.0	
Prior outside County	9.9		10.1	
		100.0%		100.0%
Prior residence				
In County		35.8%		48.6%
Outside County		61.3		47.0
Median length of residence (years)		4.8		7.3

Source: 1975 Special Census
Copley International Corporation

to the City from outside the County, and 22 percent have lived in their present place of residence less than a year. Compared to the region as a whole, a large proportion of Oceanside residents have migrated from outside the County.

Information on rental and mortgage payments made for housing services in Oceanside is presented in Table 2.7. As might be expected, a larger proportion of households (41%) make rental payments versus mortgage payments (35%) for housing services. The current median payments for rent and mortgage are $169 and $206, respectively. It should be noted that over 23 percent of Oceanside households had other living arrangements, including homeowners as well as those who may be living either with relatives or in group quarters.

INCOME AND EMPLOYMENT

Data from both the 1975 Special Census and CIC's Household Survey were used in determining income levels and employment patterns within the City of Oceanside. It was generally found that:

- Oceanside households have a lower median income compared to the County as a whole. This situation occurred regardless of the household head's age, sex, ethnicity or industry of employment.
- Over 60 percent of the household heads are employed outside the Oceanside area.

The basis of these highlights and other detailed findings are listed below.

Table 2.7

Oceanside Distribution of Rental and Mortgage Payments
1977

Monthly Payments		Oceanside
Rental Payments		41.0%
Less than $70	0.6%	
$ 71 - $125	7.5	
$126 - $200	22.9	
$201 and over	10.6	
Mortgage Payments		35.3
Less than $150	8.0%	
$151 - $200	8.8	
$201 - $300	13.8	
$301 and over	4.7	
Other		23.7
		100.0%
Median rental payment		$169
Median mortgage payment		$206

Source: 1975 Special Census
1977 Oceanside Household Survey
Copley International Corporation

Household Income

Oceanside's median household income stood at $9,528 in 1974, based on the 1975 Special Census. This level is 15 percent below that found for the County ($10,986). Examination of Table 2.8 reveals that while Oceanside's income distribution is similar to the County's, there are several significant differences. For example, households having less than $7,000 in annual income make up 35.2 percent of Oceanside's households but only 30.2 percent in the County. At the other end of the spectrum, those earning more than $20,000 a year constitute 10.7 percent of all households in Oceanside versus 16.8 percent in the County. Much of this difference is explained by the significant proportion of military and retired households living in Oceanside, whose median income together is $7,259. These two groups represent approximately 45 percent of Oceanside's households.

Household income was further analyzed according to the sex of the household head. Households with male heads represent 81 percent of all households in both Oceanside and the County. Their income in Oceanside was $10,623, contrasted to $12,509 in the County. This represents a 17 percent difference. On the other hand, calculations of female household heads' income in Oceanside ($5,473) were similar to those in the County ($5,558). Note that female heads' income in Oceanside was 48 percent below that of males in Oceanside, while it was 56 percent smaller at the County level.

Table 2.8

Distribution of Household Income

Income	Oceanside	Cumulative Percentage	San Diego County	Cumulative Percentage
Under $5,000	22.0%	22.0%	19.7%	19.7%
$ 5,000 - $ 6,999	13.2	35.2	10.5	30.2
$ 7,000 - $ 9,999	17.5	52.7	15.3	45.5
$10,000 - $14,999	23.0	75.7	22.9	68.4
$15,000 - $19,999	13.6	89.3	14.8	83.2
$20,000 - $24,999	5.9	95.2	8.6	91.8
$25,000 - $39,999	3.8	99.0	6.1	97.9
$40,000 and over	1.0	100.0	2.1	100.0
	100.0%		100.0%	

Source: 1975 Special Census
Copley International Corporation

When household income was distributed according to ethnic groups (Table 2.9) it was discovered that White and Black households had lower median incomes than their counterparts in San Diego County. In contrast, Latinos' median income was slightly higher than those in the County. Similarly, Orientals' income in Oceanside was also higher. For all ethnic groups, Blacks had the lowest median income both in Oceanside and the County.

Average household income was also tabulated according to the industry in which the household head was employed. For each industry category, except retail trade, the median income for Oceanside households was lower than that for San Diego County. Those employed in the government, agricultural and manufacturing sectors show the largest percentage differences, as illustrated in Table 2.10. The 22 percent difference for the government sector is a reflection of the larger proportion of military households residing in Oceanside, relative to the County.

Many of these noted differences in household income levels may be attributed to the fringe suburban nature of Oceanside. In other words, the lack of a strong industrial base tends to depress income across all income groups. A somewhat analogous situation occurs between San Diego and Los Angeles, with the latter having higher income levels across the board.

Employment

Total Employment. Analysis of employment trends for Oceanside was performed on a sub-regional basis vis-à-vis a

Table 2.9

Median Household Income By Race

Race	Oceanside	San Diego County
White	$ 9,798	$11,465
Black	6,889	7,236
Latino	7,956	7,715
Oriental	10,984	10,348
Percent of population	98.8%	99.1%

Source: 1975 Special Census
1977 Oceanside Household Survey
Copley International Corporation

Table 2.10

Median Household Income By Industry

Industry	Oceanside	San Diego County	Percentage Difference
Agriculture	$10,000	$12,383	-19.2%
Construction/Mining	13,012	14,218	- 8.5
Manufacturing	11,878	14,457	-17.8
Retail trade	12,958	12,861	+ 0.8
Transportation/Communications/Utilities	12,976	14,595	-11.1
F.I.R.E.	14,006	16,370	-14.4
Service	11,830	12,326	- 4.0
Government*	9,900	12,758	-22.4

*Includes military households

Source: 1975 Special Census
Copley International Corporation

City basis. This procedure was due primarily to the lack of data available by place of employment on the latter basis. Nevertheless, it was estimated by CIC that over 97 percent of the jobs in the Oceanside subregional area (SRA 44) occur within the City of Oceanside.

The distribution of employment by major industrial categories for the years 1966 and 1975 is presented in Table 2.11. It should be noted that the government sector does not include military personnel, particularly Camp Pendleton employment.

Total employment in the area has increased at an average annual rate of 8.6 percent during the 1966 to 1975 period. In 1975, the principal industries (Trade, Services, and Government) provided an estimated 66 percent of all jobs. However, this figure represents a 5 percent decline in total shares from 1966. Much of this decline was due to the drop in the Trade industry's portion of employment from 30.3 percent in 1966 to 26.0 percent in 1975. Further analysis of this sector will be found in the section describing the shopping habits of Oceanside households.

Heads of Household Employment. Analysis of employment patterns of household heads reveals that the government sector is the largest employer (Table 2.12). The City (Oceanside) and County distributions exhibit notable differences. For example, the trade sector employs 5.6 percent of all household heads in Oceanside, while 10.5 percent work in this sector in the County. The difference here could be attributed to

Table 2.11

Oceanside Employment By Industry and Number of Employees

Industry	Employment 1966	Employment 1975	Percent Distribution 1966	Percent Distribution 1975	Employment Growth 1966-1975
Agriculture	388	977	4.6%	6.2%	15.2%
Construction/Mining	200	953	2.3	6.0	37.7
Manufacturing	796	1,765	9.3	11.1	12.2
Utilities	702	877	8.2	5.5	2.5
Trade	2,583	4,123	30.3	26.0	6.0
Wholesale	188	414	2.2%	2.6%	12.0%
Retail	2,395	3,709	28.1	23.4	5.5
F.I.R.E.	420	670	4.9	4.2	6.0
Service	1,645	2,977	19.3	18.8	8.1
Government	1,793	3,515	21.0	22.1	9.6
Total Employment	8,527	15,877	100.0%	100.0%	8.6

Source: Comprehensive Planning Organization
Copley International Corporation

Table 2.12

Employment Distribution of Household Heads
By Place of (Residence)

Industry	Oceanside	San Diego County	Military Excluded: Oceanside	Military Excluded: San Diego County
Agriculture	2.3%	1.9%	3.3	2.2
Construction/Mining	4.9	7.0	7.1	8.3
Manufacturing	6.4	11.7	9.3	13.8
Whole/Retail Trade	5.6	10.5	8.1	12.4
Transportation/Communications/Utilities	6.1	6.1	8.9	7.2
F.I.R.E.	3.1	4.8	4.5	5.7
Services	23.9	26.9	34.7	31.7
Sub Total	52.4	68.9	75.9	81.3
Government	47.6	31.1	24.1	18.7
Military	31.1	15.2		
Non-Military	16.4	15.9		
	100.0%	100.0%	100.0%	100.0%

Source: 1975 Special Census
1977 Oceanside Survey
Copley International Corporation

the larger proportion of government employment, 47.6 percent, in Oceanside which includes military household heads as well as civilian employees. However, when the military employment is netted out (Table 2.12) of the distribution for both Oceanside and San Diego County, the disparities still remain. For example, the combined percentage employment in the manufacturing and trade sector is 17.4 percent, compared to 26.2 percent for the County.

The distribution of employment for household heads according to location of work is presented in Table 2.13. It is estimated that the City of Oceanside provides 34 percent of the jobs held by Oceanside household heads, while 29 percent and 37 percent are employed in other cities and Camp Pendleton, respectively. Household head employment by location of work was also analyzed according to industry (Table 2.14). This distribution revealed that 65 percent of those employed in the agricultural sector work in Oceanside. In contrast, 68 percent of those in mining and construction work outside the City. The distribution of employment for the rest of the sectors was more or less evenly split, except for those in government, which includes military household heads.

MILITARY AND RETIRED HOUSEHOLDS

A separate demographic profile of military and retired households was developed in order to identify their impact on the Oceanside economy. These two groups exercise

Table 2.13

Distribution of Employed,
By Location of Work*

Area	Percent
Oceanside	34.0%
Camp Pendleton	37.1
Carlsbad	7.6
Vista	3.3
San Marcos	1.3
Escondido	2.3
San Diego County	8.9
Other	5.5
	100.0%

Source: 1975 Special Census
Copley International Corporation

Table 2.14

Distribution of Location of Household Head Employment, By Industry

Industry	Work In Oceanside	Work Outside Oceanside
Agriculture/Forestry/Fishing	65.0%	35.0
Construction/Mining	32.0%	68.0
Manufacturing	47.0%	53.0
Wholesale/Retail Trade	52.0%	48.0
Transportation/Communications/Utilities	52.0%	48.0
F.I.R.E.	51.0%	49.0
Services	56.0%	44.0
Government	14.0%	86.0

Source: 1975 Special Census
Copley International Corporation

considerable influence on the City of Oceanside's economy, due largely to the fact that the proportion of Oceanside households represented by them is substantial, as Table 2.15 illustrates. These two categories alone constitute over 45 percent of all households in Oceanside, compared to only 28.5, 26.9 and 25.0 percent for San Diego County, Escondido, and Carlsbad, respectively.

Table 2.15

Percent Retired and/or Military Households

Household	Oceanside	S.D.County	Escondido	Carlsbad
Military	19.9%	8.8%	1.7%	6.2%
Retired	25.4	19.7	25.2	18.8
Total	45.3%	28.5%	26.9%	25.0%

Source: 1975 Special Census
1977 Oceanside Household Survey
Copley International Corporation

The distribution of military and retired households by the census tract in which they reside is presented in Table 2.16. Military households are widely dispersed throughout the City of Oceanside with large concentrations in census tracts of 185.01, 185.02 and 186.03. Yet nearly 30 percent of the retired population are situated in tract 185.02. The last column in the table further describes these tendencies by indicating the proportion of households that are military and/or

Table 2.16

Distribution of Military and Retired Households, By Census Tract

Census Tract	Military Households	Retired Households	Percent of All Households
181.00	4.9%	12.8%	42.0%
182.00	7.8	8.1	46.0
183.00	9.2	3.0	40.0
184.00	6.1	6.0	57.0
185.01	14.9	8.6	42.0
185.02	1.5	29.3	72.0
185.03	9.8	11.9	34.0
185.04	3.8	4.9	26.0
186.01	2.3	1.3	38.0
186.02	21.0	7.0	43.0
186.03	17.5	3.1	56.0
193.00	00.0	0.2	25.0
194.00	00.0	0.1	00.0
198.00	1.2	3.7	35.0
	100.0%	100.0%	45.0%

Source: 1975 Special Census
Copley International Corporation

retired in each census tract. To illustrate, in tract 185.02 these two groups (primarily retired) constitute over 72 percent of all households, while they represent only 25 percent in tract 193.00. From this evidence, it appears that military households are more evenly distributed throughout the Oceanside community than is the case with the retired households.

Military Households

Approximately one out of every five household heads in the City of Oceanside is in the military, stationed at nearby Camp Pendleton. Table 2.17 provides information on the type of housing, income levels, and racial distribution of this extremely significant sector of the Oceanside community. Highlights of the information contained in Table 2.17 are summarized below:

- In terms of housing type, over 72 percent of all military households reside in multi-dwelling units, with the largest cluster, 44 percent, in the five-units-or-more category (predominantly apartments).
- The median household income for this group was $8,205. Over 24 percent had annual incomes under $5,000, and 62 percent were below $10,000.
- Approximately 25 percent of the military household heads are non-white minorities, with 12.3, 9.5, and 1.9 percent classified as Black, Latino, and Oriental, respectively.

The age distribution of military household heads in the City of Oceanside and San Diego County is presented in Table 2.18. The median age was 24.8 years for those living in Oceanside, compared to 29.6 years for the County as a whole. Also, over 55 percent of Oceanside military household heads are

Table 2.17

Social-Economic Characteristics
of Military Households

Characteristic	Military Households	Cumulative Totals
Type of Housing		
Single Family	27.1%	27.1%
Duplex	6.5	33.6
Triplex	2.3	35.9
Fourplex	9.0	44.9
Five or more units	44.1	89.0
Mobile home	2.9	91.9
Hotels/motels, etc.	8.1	100.0
	100.0%	
Income Levels		
Under $5,000	24.1%	24.1%
$ 5,000 - $ 6,999	17.6	41.7
$ 7,000 - $ 9,999	20.6	62.3
$10,000 - $14,999	20.7	83.0
$15,000 - $19,999	12.0	95.0
$20,000 - $24,999	3.2	98.2
$25,000 and over	1.8	100.0
	100.0%	
Median household income	$8,205	
Racial Composition		
White	75.3%	
Black	12.3	
Latino	8.5	
Oriental	1.9	
Other	0.9	
	100.0%	

Sources: 1975 Special Census
1977 Oceanside Household Survey
Copley International Corporation

Table 2.18

Age Distribution of
Military Household Heads

Age	Oceanside	San Diego County
18-24 years	55.2%	30.7%
25-34 years	25.4	41.1
35-44 years	15.4	23.0
45-54 years	3.0	4.0
55 years and over	1.0	2.2
	100.0%	100.0%
Median age (years)	24.8	29.6

Source: 1975 Special Census
Copley International Corporation

between 18 and 24 years of age compared to 30.7 percent for the County as a whole.

As indicated earlier in this chapter, the low proportion of single-family dwellings (44 %) in Oceanside appears to be a reflection of the military households' tendency to rent versus buying housing services. This proposition is supported in Tables 2.19 and 2.20. Information on the length of residence for military households in Oceanside is presented in Table 2.19. The information contained in this table is summarized below:

- The median length of residence for this group is 1.4 years
- Over 44 percent of these households have lived in their present place of residence less than a year, while only 14 percent have stayed longer than six years
- Approximately 71 percent of all military households have migrated to Oceanside from outside the County

Table 2.20 reveals the distribution of rental and mortgage payments made by military household heads. Approximately 70 percent make rental payments for housing services, 25 percent make mortgage payments, and the remaining 5 percent have other living arrangements. The median amount of rent paid on a monthly basis was $159, which is slightly lower than that figure found in all Oceanside household heads (see Table 2.7). On the other hand, the median mortgage payment for this group was $235 in contrast to $206 for all Oceanside household heads. Although a significant majority of military households rent housing services, those that make mortgage payments apparently pay more than do the average Oceanside households.

Table 2.19

Length of Residence
for Military Households

Length of Residence		Military Households
Since birth		2.7%
Less than one year		44.2
Prior in County	11.4%	
Prior outside County	32.8	
1-5 years		41.4
Prior in County	10.8	
Prior outside County	30.3	
6-14 years		8.8
Prior in County	2.9	
Prior outside County	5.9	
15 years or more		2.9
Prior in County	1.1	
Prior outside County	1.8	
		100.0%
Prior residence		
In County	26.5	
Outside County	70.8	
Median length of residence (years)		1.4

Source: 1975 Special Census
1977 Oceanside Household Survey
Copley International Corporation

Table 2.20

Distribution of Rent and Mortgage Payments, By Military Households (1977)

Monthly Payments		Military Households
Rental payments		69.6%
Less than $70	0.5%	
$ 71 - $125	26.4	
$126 - $200	52.7	
$201 and over	20.4	
Mortgage payments		24.8
Less than $150	12.6%	
$151 - $200	20.4	
$201 - $300	52.7	
$301 and over	20.4	
Other		5.6
		100.0%
Median rental payment		$159
Median mortgage payment		$235

Source: 1975 Special Census
Copley International Corporation

Retired Households

As shown previously in Table 2.15, one out of every four household heads in Oceanside is retired. Table 2.21 provides information on the type of housing and income distribution of this substantial group by revealing that:

- Although 36 percent of retired households reside in single-family dwellings, a large proportion, 23 percent, live in mobile homes; another 17 percent reside in duplexes
- The median household income for retired households is $6,534. Approximately 38 percent reported incomes under $5,000 annually, while only 29 percent had incomes over $10,000

Analysis of this group also revealed that over 93 percent were White; 2.2 percent were Black; and another 3.2 percent were Latino. In addition, 83 percent were 55 years of age or older.

Data on the length of residence for this group are presented in Table 2.22. According to the analysis, over 66 percent of the retired households migrated to Oceanside from outside the County. The median length of stay at their present residence for this group is 5.9 years, which is longer than that found for all Oceanside household heads (see Table 2.6).

SHOPPING HABITS

A profile of shopping habits for Oceanside residents was developed by analyzing Copley's monthly CASH survey; the profile included the specific shopping habits of military and retired households. In addition, information provided by the California State Board of Equalization on retail outlets was

Table 2.21

Socioeconomic
Characteristics of Retired Households

Characteristic	Retired Households	Cumulative Totals
Type of Housing		
Single family	36.0%	36.0%
Duplex	17.4	53.4
Triplex	4.4	57.8
Fourplex	7.1	64.9
Five or more units	12.4	77.3
Mobile home	22.7	100.0
	100.0%	
Income Levels		
Under $5,000	38.3%	38.3%
$ 5,000 - $ 6,999	15.3	53.6
$ 7,000 - $ 9,999	17.8	71.4
$10,000 - $14,999	16.7	88.1
$15,000 - $19,999	6.2	94.3
$20,000 and over	5.7	100.0
	100.0%	
Median household income	$6,534	

Source: 1975 Special Census
Copley International Corporation

Table 2.22

Length of Residence
for Retired Households

Length of Residence		Retired Households
Since birth		1.4%
Less than one year		14.1
Prior in County	4.7%	
Prior outside County	9.4	
1-5 years		36.5
Prior in County	10.8	
Priot outside County	25.7	
6-14 years		26.2
Prior in County	6.9	
Prior outside County	19.3	
15 years or more		21.8
Prior in County	9.4	
Prior outside County	12.4	
		100.0%
Prior residence		
In County	33.2%	
Outside County	66.8	
Median length of residence (years)		5.9

Source: 1975 Special Census
Copley International Corporation

examined to determine the sales growth for this sector since 1970. The major conclusions drawn from these analyses are summarized below:

- Approximately 35 percent of all retail purchases made by Oceanside households are bought in Oceanside
- Nearly 26 percent of all retail purchases are bought at Plaza Camino Real
- The shopping patterns of military and retired households are similar to Oceanside residents as a whole
- The City of Oceanside has experienced much smaller growth in taxable retail sales than either Carlsbad or San Diego County

The basis of the findings on shopping habit patterns are detailed below.

General Shopping Habits

Retail purchases made by a representative sample of Oceanside households were distributed according to location of purchase (Table 2.23). The data used in this analysis cover a three-year period (1974-76) and do not include grocery purchases. Furthermore, retail purchases have been categorized into durable and nondurable groups. The durable groups include items such as furniture and major household appliances, which tend to be used over a long period of time. The nondurable category includes such items as clothing, shoes, and everyday personal products that are more or less replaced within a year.

Examination of Table 2.23 reveals that only 35 percent of all household retail purchases were made in the City of Ocean-

Table 2.23

Distribution of Purchases By Location

Location	Durables	Non-Durables	Total
Oceanside	36.8%	32.1%	34.7%
Camp Pendleton	9.3	9.6	9.4
Plaza Camino Real	22.3	28.8	25.2
Escondido Mall	9.2	3.3	6.6
North County	6.9	4.0	5.6
Other	15.5	22.1	18.5
	100.0%	100.0%	100.0%

Source: Monthly CASH Survey
Copley International Corporation

side, while the remainder were made outside of the City. Of particular importance is the fact that 26 percent of the households have made their retail purchases at nearby Plaza Camino Real. Surprisingly, only 9 percent have made purchases at Camp Pendleton, in spite of the fact that military households represent 20 percent of all households. The data also reveal that 37 percent of the households sampled purchased durable goods in Oceanside, but only 32 percent bought nondurable items in the City. This difference in favor of durable goods can be attributed in large part to the presence of the Sears Catalog Store in Oceanside. On the other hand, only 22 percent of the households make durable purchases at Plaza Camino Real; at the same time, 29 percent of nondurable purchases (mostly clothing) were made at this regional shopping center facility.

Purchases by location were also distributed in the analysis according to household income. This analysis is presented in Table 2.24. The results from the survey indicate that the proportion of households purchasing goods and services in Oceanside declines as the income level of households increases. For instance, while 40 percent of all households with incomes under $5,000 shop in Oceanside, only 29 percent of those with incomes of $15,000 or more shop in the City. On the other hand, Plaza Camino Real obtains roughly 26 percent of Oceanside purchases regardless of income levels. Finally, as their income level increases, households tend to shop more at locations other

Table 2.24

Locational Distribution of Retail Purchases
By Income Level of Household

Household Income	Oceanside	Plaza Camino Real	All Other Areas	Total
(READ ACROSS)				
Under $5,000	40.4%	25.5	34.1	100.0%
$ 5,000 - $ 9,999	37.6%	27.0	35.4	100.0%
$10,000 - $14,999	32.2%	27.5	40.3	100.0%
$15,000 - $19,999	29.8%	28.6	41.6	100.0%
$20,000 and over	28.6%	28.9	42.5	100.0%

Source: Monthly CASH Survey
Copley International Corporation

than Oceanside and Plaza Camino Real.

It appears that the City of Oceanside is losing a large proportion of retail sales dollars that would normally be spent in Oceanside to outside areas, particularly to Plaza Camino Real. In addition, Camp Pendleton does not seem to be as strong a competitor for household retail purchases as might be expected. Also, Oceanside households are more inclined to purchase nondurable items, such as clothing goods, outside of the City. Finally, Oceanside households in the higher income categories tend to make more purchases of both nondurable and durable goods outside of Oceanside.

Military and Retired Household Shopping Habits

There were few significant differences found between military and retired household shopping habits relative to those habits associated with all Oceanside households. The distribution of durable and nondurable purchases made by both groups is presented in Table 2.25. As expected, a larger proportion of military households made purchases at Camp Pendleton. However, almost 36 percent of the military households purchased their durable goods in Oceanside, compared to only 18 percent making these same type of purchases at Camp Pendleton. For nondurable purchases, military households are more or less evenly distributed between Oceanside, Camp Pendleton, Plaza Camino Real, and San Diego County.

Retired households exhibited a distribution similar to that found for all Oceanside households. The only real

Table 2.25

Distribution of Retail Purchases By Location for Retired and Military Households

	Retired Households		
Location	Durables	Non-Durables	Total
Oceanside	35.8%	28.8%	32.3%
Camp Pendleton	7.5	11.0	9.3
Plaza Camino Real	26.9	32.9	29.4
Escondido Mall	10.4	6.8	8.6
North County	7.5	1.4	4.5
San Diego County	11.9	20.5	15.8
	100.0%	100.0%	100.0%

	Military Households		
Location	Durables	Non Durables	Total
Oceanside	36.5%	26.0%	31.3%
Camp Pendleton	17.6	20.2	19.6
Plaza Camino Real	15.3	23.1	19.2
Escondido Mall	11.8	5.7	7.3
North County	3.5	2.9	3.1
San Diego County	15.3	22.1	19.5
	100.0%	100.0%	100.0%

Source: Monthly CASH Survey
Copley International Corporation

difference was that a larger proportion of retired households, 33 percent, prefer to make nondurable purchases at Plaza Camino Real compared to the 29 percent making purchases in Oceanside. This is in contrast to the 29 percent of all Oceanside households making purchases in Oceanside and the 33 percent making this type of purchase at Plaza Camino Real.

Retail Sales Growth

Presented in Table 2.26 are ten categories of retail stores as defined by the California Equalization Board for the City of Oceanside, Carlsbad, and San Diego County. The table data offer the percentage growth in taxable retail sales that each category has achieved during the five-year period. Also included in this table is the number of retail outlets in operation under each classification during this time period. Information contained in this table is summarized below:

- The City of Oceanside has experienced only 47.4 percent growth in taxable retail sales during 1970 and 1975, while 228.1 and 72.5 percent have been achieved by Carlsbad and San Diego County, respectively.
- Taxable retail sales in the apparel category have declined by 17.5 percent in Oceanside during 1970 and 1975. Also, five fewer apparel stores are in operation.
- Aside from apparel stores, three other types of retail stores in Oceanside (home furnishing and appliances, building material stores, as well as auto dealers) have achieved a much smaller growth in sales than similar stores located in Carlsbad and San Diego County.

The smaller growth rate of taxable retail sales in the City of Oceanside can be largely attributed to the

Table 2.26

Growth in Retail Sales and Change in Number of Store Outlets
1970-1975

Retail Store Category	Oceanside		Carlsbad		S.D. County
	Growth in Sales	Change in No. of Outlets	Growth in Sales	Change in No. of Outlets	Growth in Sales
Apparel stores	- 17.5%	- 5	126.7%	+ 9	49.4%
General merchandise	62.3	- 3	79.6	+ 2	66.2
Drug stores	294.8	+ 3	*	+ 2	52.2
Food stores	105.4	+14	178.2	+ 9	86.2
Packaged liquor	52.1	+ 2	*	+ 1	55.4
Eating and drinking	95.4	+14	356.8	+11	100.7
Home furnishings and appliances	11.3	+ 4	264.3	+11	50.4
Building material	- 1.9	+ 5	157.3	+ 2	93.0
Automobile dealers	10.6	+ 5	*	+ 7	64.8
Other retail stores	67.9	+33	134.8	+19	79.5
Total taxable retail sales					
1970	$66,774		$27,026		$1,760,710
1975	98,408		88,668		2,036,499
Percentage growth in taxable retail sales, 1970-1975	47.4%		228.1%		72.5%

*Information unavailable due to disclosure law.

Source: California State Board of Equilization
Copley International Corporation

establishment of a regional shopping center in Carlsbad (Plaza Camino Real) and, to a lesser extent, to the existence of a military exchange at Camp Pendleton. The differences in retail sales growth have also significantly impacted the employment patterns of Oceanside residents. As noted earlier in Table 2.12, the retail sector's percentage of employment declined from 28.1 percent to 23.4 percent during the 10-year period ending in 1975.

CHAPTER 3

OCEANSIDE FIRMS

INTRODUCTION

An analysis of firms in the Oceanside baseline study will be discussed in this chapter. All the information concerning Oceanside firms is from the commercial questionnaire which was answered by 301 firms in the area. The data from this questionnaire were analyzed using the SPSS* computer program. Oceanside firms are described according to their size measured by total sales for 1976, square footage, and employment. Each industry is analyzed to determine size of firms, types of consumers, exports, purchases, and imports. The standard economic base for the City of Oceanside is constructed from the data. In addition, an overview of economic base analysis is presented in order to familiarize the reader with the subject.

FIRM SIZE

The size of Oceanside firms has been determined using the following three dimensions: total dollar sales for 1976, square footage, and total employment. All information

*Norman H. Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent, Statistical Package for the Social Sciences, 2nd edition. (New York: McGraw-Hill Book Company, 1975).

concerning the Oceanside businesses was compiled from the commercial questionnaire. A discussion of the survey methodology is found in Appendix A. Results of the survey will be compared to San Diego County statistics for the employment dimension.

Total Sales for 1976

Table 3.1 indicates the sales distribution among Oceanside firms. The response rate for this item as asked on the commercial questionnaire is approximately two thirds. The table indicates that 84 percent of the firms in the sample reported total sales less than $500,000 for 1976. Approximately 53 percent of the firms report yearly sales of less than $150,000. The average sales figure for Oceanside firms in 1976 is $143,000. This relatively low figure is a result of the large cluster of firms with sales less than $500,000.

Square Footage

The second size dimension used to analyze firms in Oceanside is square footage. Table 3.2 shows the distribution of firms according to their reported square footage. The largest cluster of firms has a working space ranging from 1,001 to 50,000 square feet. The average working space reported by Oceanside firms is 2,801 square feet. This small number can be attributed to the composition of both the firms in Oceanside and those responding to the commercial questionnaire. The majority of firms surveyed are engaged in activities

Table 3.1*

Total Sales of Oceanside Firms for 1976

1976 Dollar Sales	Frequency	Cumulative
Less than or equal to $25,000	15.8%	15.8%
$ 25,000 - $ 49,999	13.0	28.8
$ 50,000 - $ 149,999	23.7	52.5
$ 150,000 - $ 299,999	20.0	72.5
$ 300,000 - $ 499,999	11.6	84.1
$ 500,000 - $ 749,999	1.9	86.0
$ 750,000 - $ 999,999	3.3	89.3
$1,000,000 - $2,499,999	5.1	94.4
$2,500,000 - $4,999,999	2.8	97.2
$5,000,000 - $9,999,999	1.4	98.6
$10,000,000 or more	1.4	100.0
	100.0%	

*Non-responses are excluded from the data set so as not to adversely affect the results.

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.2

Distribution of Firms By Square Footage

Square Footage	Number of Firms	Percentage	Cumulative
100 sq. ft. or less	9	3.8%	3.8%
101 - 500	18	7.6	11.4
501 - 1,000	23	9.7	21.1
1,001 - 2,000	44	18.5	39.6
2,001 - 3,000	31	13.0	52.6
3,001 - 5,000	36	15.1	67.7
5,001 - 10,000	35	14.7	82.4
10,001 - 50,000	34	14.3	97.7
50,001 or more	8	3.3	100.0
	238	100.0%	

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

which do not require vast amounts of space. The breakdown of firms according to industry indicates that 37 percent are classified as Trade industry, and 13 percent are classified as Service industry, compared to the 14 percent classified as Manufacturing. Therefore, Oceanside firms are predominantly small due to the structure of industry in the area.

Employment

The employment patterns of Oceanside firms are analyzed in three steps: (1) total employment, the number of employees for each firm; (2) full-time employment, the number of full-time workers for each firm; (3) part-time employment, the number of part-time workers (those who work 20 hours or less per week) for each firm.

Total Employment. Total employment for the City of Oceanside is determined from the survey. The results show that most firms are small when measured by the number of people they employ. Table 3.3 shows the distribution of employment by the firms in the sample. Of the firms surveyed, 106 or 35.2 percent employ 1-3 persons. The average employment figure for Oceanside firms is 5.3 workers.

To increase the meaningfulness of the survey results, employment figures can be compared to those in San Diego County. According to the Employment Development Department for the State of California, 77.2 percent of all firms in

San Diego County had 1-9 employees in 1974.* Table 3.3 shows that 72.4 percent of Oceanside firms have 1-10 employees. This corresponds to employment figures for San Diego County. Therefore, Oceanside firm size measured by total employment tends to be consistent with the County as a whole.

Full-Time employment. The commercial questionnaire asked respondents to estimate their number of full-time employees. Table 3.4 shows the distribution of firms by employment groups. Forty-two percent of the firms have between one and three full-time employees. The average number of full-time employees is 4.36. This is approximately 18 percent lower than the average total employment figure, i.e., 5.3 persons per firm.

Part-Time employment. Part-time workers are defined as those employees who average 20 hours or less per week. Of the firms surveyed, 52.2 percent have no part-time workers. The distribution of workers by firms in Table 3.4 indicate that 36.9 percent of these firms have part-time employment of 1-3 workers. The average number of part-time workers is 2.5 persons per firm.

The breakdown of employment into full-time and part-time gives more information than a single total employment figure. Approximately one half of the firms in the sample have some part-time workers. This fact must be kept in mind when

*State of California, Health and Welfare Agency, Employment Development Department, "Study of Employing Establishments in San Diego County By Size of Firm and Industrial Activity," September 1974, p. 1.

Table 3.3

Distribution of Oceanside Total Employment

Number of Employees	Number of Firms	Percentage	Cumulative
1 - 3	106	35.2%	35.2%
4 - 6	68	22.6	57.8
7 - 10	44	14.6	72.4
11 - 20	44	14.6	87.0
21 - 40	18	6.0	93.0
41 - 100	16	5.3	98.3
101 - 250	2	0.7	99.0
251 or more	3	1.0	100.0
	301	100.0%	

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.4

Full-Time and Part-Time Employment

Number of Employees	Number of Firms Full-Time	Percentage	Number of Firms Part-Time	Percentage
0	13	4.3%	158	52.5%
1 - 3	127	42.2	111	36.9
4 - 6	59	19.6	18	6.0
7 - 10	36	12.0	8	2.7
11 - 20	29	9.6	5	1.7
21 - 40	19	6.3	1	0.3
41 - 100	14	4.7	0	0.0
101 - 250	1	0.3	0	0.0
251 or more	3	1.0	0	0.0
		100.0%		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

analyzing average total employment figures because the presence of part-time workers tends to overstate total employment.*

Summary

All three dimensions of size tend to indicate that Oceanside firms are small. Total sales are less than $500,000 for 84 percent of the firms surveyed. The comparison of firms in the sample shows average square footage of 2,801 feet. Total employment for Oceanside firms is 5.3 workers per firm. Results of the commercial questionnaire indicate that Oceanside is a city consisting primarily of firms belonging to the Trade sector with 1-10 employees, and yearly sales of less than $500,000.

*Since the employment figures used in the analysis of Oceanside firms are grouped data, the total employment is not a sum of part-time and full-time employment. For example, one firm may report 41-100 full-time employees and 1-3 part time employees. The total employment for the firm may still be the 41-100 category if the number of employees remains in the same group. The raw data was grouped to minimize any errors from respondents who had to estimate employment figures when answering the questionnaire.

DESCRIPTION OF MAJOR ECONOMIC SECTORS

The composition of industries in the Oceanside baseline study may be thoroughly analyzed by separating the major sectors and describing them in detail. Each major industry will be examined using the following criteria: total employment, Oceanside employment, military employment, square footage, total sales, distribution of sales by industry and by households including military and non-resident households, purchases made by each industry, and percentage of purchases imported by each. Each sector is analyzed separately to familiarize the reader with each industry before describing the economic base for the City of Oceanside. The description of these sectors will be made on a percentage comparison basis. This approach provides insight into the relative composition of each sector's output. All conclusions about the economic structure will be based on the information in this format. The quantitative approach will be handled in Chapter 4. These approaches together form a larger information base than would otherwise be possible.

Agriculture

Six of the firms in the commercial sample are classified as agricultural industry. Most of these are nurseries; one is a worm farm. The small number of agricultural firm in the sample indicates that the agriculture industry is a small part of the Oceanside economy.

Total employment in the agriculture industry is dispersed among all categories as shown in Table 3.5. Approximately 50 percent of the industry has 7-10 employees. The Oceanside agricultural sector has more workers on the average than the other industries. This may be attributed to the labor intensive production techniques used in this industry.

Table 3.5

Employment in the Agriculture Industry

Number of Employees*	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	0	5
1 - 3	1	1	1
4 - 6	0	0	0
7 - 10	3	2	0
11 - 20	1	1	0
21 - 40	0	1	0
41 - 100	0	1	0
101 - 250	0	0	0
251 or more	1	0	0

* The number of employees breakdown is in terms of full-time workers. The "0" category picks up part-time employees.

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Although there are only six agriculture firms in the sample, square footage varies widely among them. The range of square footage is from 100 square feet to more than 50,000 square feet.

Total sales for Oceanside firms in the Agriculture industry are shown in Table 3.6. The median firm sales are $125,000. This is below the overall average of $143,000. The lower sales figure further indicates that there are few agricultural firms in Oceanside.

Total agriculture sales for 1976 are divided according to consumers. They are distributed to households and the major industries to determine the flows of goods and services. The results indicate that the largest cluster of firms sell 91-100 percent of their total product to Wholesale and Retail Trade. Others sell more than 50 percent of their total sales to households and other agricultural firms. One firm sells 81-100 percent of its total sales to government. The survey results indicate a channel of trade in the agriculture industry. Thus, one can say that most agriculture products are sold to final consumers via Trade outlets, government, or the consumers themselves. The demand for agriculture products in Oceanside may be low because only one market, households, is reached.

A more detailed description of the amount of sales to final consumers shows that 33 percent of the sector

Table 3.6

Agriculture Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	1	20.0
$ 25,000 - $ 49,999	0	0
$ 50,000 - $ 149,999	2	40.0
$ 150,000 - $ 299,999	1	20.0
$ 300,000 - $ 499,999	0	0
$ 500,000 - $ 749,999	0	0
$ 750,000 - $ 999,999	0	0
$ 1,000,000 - $2,499,999	0	0
$2,500,000 - $4,999,999	1	20.0
$5,000,000 - $9,999,999	0	0
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

sell more than 70 percent of their household sales to military households, 33 percent sell 20-40 percent of final sales to Oceanside residents, and 83 percent of the industry sell more than 60 percent of their products outside the area. Five of these firms export 91-100 percent of their household sales.

These survey results indicate that those agricultural firms in Oceanside which sell to households are selling mostly to households outside of Oceanside.

Purchases made by the agriculture firms are primarily from the Manufacturing industry, and Trade industry. Of those who buy manufacturing goods, an estimated 75 percent purchase 91-100 percent of them from outside of Oceanside. Also, 75 percent of the firms who buy trade products, purchase more than 50 percent of these from outside of Oceanside. Both of these purchasing patterns indicate that the average agriculture firm in Oceanside is importing its production goods.

The flow of goods and services in the Agriculture industry shows a cycle of importing goods used to produce products ultimately for final consumers, most of whom live outside of Oceanside. All indications about the Agriculture industry point to the fact that it is a small sector, NOT only in terms of size but also in its impact on the Oceanside economy. Statistically, this sector was over sampled. This implies that further analysis would not substantially alter the conclusions drawn at this point. The input-output model presented in

Chapter 4 reinforces this conclusion.

Construction

The Construction industry in Oceanside consists primarily of small contractors dealing in carpentry, plumbing, building, and electrical work.

Employment in the Construction industy is shown in Table 3.7 with breakdowns according to Oceanside residents and military households. Approximately 85 percent of the contractors surveyed employ Oceanside residents and 45 percent of these firms employ 1-3 Oceanside residents. Only 18 percent of this industry employ persons from military households.

Square footage for construction firms is distributed among all categories. The median size of construction establishments in Oceanside is 1,375 square feet. This may be due to the nature of the industry. Most of their work is done away from company premises.

Total construction sales for 1976 are shown in Table 3.8. Most of the firms have total sales of less than $300,000. This is consistent with the rest of the firms surveyed. The small amount of total sales may indicate that there is competition from construction firms outside of Oceanside.

Respondents were asked to allocate their total sales according to their customers. Twelve construction firms report some sales to households; nine of these sell more than 70 percent of their total sales to this group. Thirteen

Table 3.7

Employment in the Construction Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	3	18
1 - 3	8	10	3
4 - 6	2	2	1
7 - 10	3	1	0
11 - 20	3	4	0
21 - 40	3	1	0
41 - 100	3	0	0
101 - 250	0	0	0
251 or more	0	0	0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.8

Construction Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	1	7.7
$ 25,000 - $ 49,999	1	7.7
$ 50,000 - $ 149,999	3	23.1
$ 150,000 - $ 299,999	5	38.5
$ 300,000 - $ 499,999	1	7.7
$ 500,000 - $ 749,999	0	0
$ 750,000 - $ 999,999	0	0
$1,000,000 - $2,499,999	1	7.7
$2,500,000 - $4,999,999	1	7.7
$5,000,000 - $9,999,999	0	0
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

firms report some sales to their own industry; seven said that 91-100 percent of their yearly sales are to the construction industry. Seven firms report some government sales; two of these sell more than 70 percent of their total sales to the government. Sales to other industries are small except for the Service industry which accounts for 91-100 percent of the sales for two construction firms.

Households also account for a proportion of construction sales. They are analyzed by checking the amount of sales to military Oceanside residents and nonresident households. Seven firms report sales to military households. Seven firms report sales to military households; all these sell less than 50 percent of their output to the military residents. This is expected because military housing is available on the base and military personnel often are not permanent residents.

Eleven of the construction firms sell some goods and services to Oceanside residents. Five of these report that more than 50 percent of their household sales are to Oceanside residents. Seventeen of the contractors have sales outside of Oceanside, six of these sell more than 70 percent of their total products to nonresidents.

The results stated above indicate that 30 percent of the Oceanside construction firms are exporting goods and services. The demand for construction products is different for different types of households. The firms who sell to military households report that 6-50 percent of their total sales

are to this group. The above data support the fact that military personnel have housing available on the base.

Purchases made by Oceanside contractors are primarily from the Construction, Manufacturing, and Trade industries. Three of the firms purchase more than 50 percent of the total inputs from their own industry. Three also buy 91-100 percent of these inputs from outside of Oceanside. The Manufacturing industry supplies more than 50 percent of construction inputs to three of the contractors. Three of the construction firms are importing 91-100 percent of these manufacturing inputs. The Trade industry supplies more than 70 percent of the inputs to nine of the contractors. Six construction firms import more than 80 percent of their Trade purchases. The other major industrial sectors have little impact on construction purchases.

The purchasing patterns of Oceanside construction firms combined with the sales of these firms appear to indicate that contractors in Oceanside are importing a significant amount of inputs and are selling primarily to the final demand sector (e.g., Government, industries outside Oceanside, household). In addition, the small amount of construction sales for 1976 indicates that the Oceanside contractors may be reaching only a part of their potential consumers.

Manufacturing

There are 43 Oceanside firms that are classified as Manufacturing industry in the commercial sample. This group is comprised of companies who manufacture bakery goods,

apparel products, wood products, paper goods, chemicals, oils, concrete, metal products, machinery, electrical equipment, medical instruments, and miscellaneous equipment.

Employment in the manufacturing industry is dispersed among all categories with the largest cluster of firms having 1-3 employees (Table 3.9). Oceanside residents are employed by 25 of the manufacturing firms, more than 50 percent of these firms have 1-3 workers who are City residents. Only 17 firms employ persons from military households. The largest grouping is five firms having 1-3 employees from military households. These employment figures indicate that Oceanside residents comprise the largest group of workers in the manufacturing industry.

Square footage for manufacturing firms in Oceanside is distributed from 100 square feet to 50,000 square feet. The average working space for manufacturing firms is 3,500 square feet. This is larger than the overall square footage of all Oceanside firms (2,801) as would be expected in an industry like manufacturing which utilizes large equipment and large amounts of space.

Total sales for 1976 are shown in Table 3.10. Median sales for the Manufacturing industry are $98,649. This is considerably less than the median sales for all firms ($143,000).

The majority of manufacturing sales are distributed among the following industry classifications: Households, Construction, Manufacturing, Trade, and Government. Fifteen firms sell some products to households, and seven of

Table 3.9

Employment in the Manufacturing Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	5	26
1 - 3	15	16	5
4 - 6	2	4	2
7 - 10	7	5	1
11 - 20	7	2	4
21 - 40	2	6	1
41 - 100	7	0	1
101 - 250	1	1	1
251 or more	2	0	0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.10

Manufacturing Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	8	21.6
$ 25,000 - $ 49,999	4	10.8
$ 50,000 - $ 149,999	9	24.3
$ 150,000 - $ 299,999	4	10.8
$ 300,000 - $ 499,999	2	5.4
$ 500,000 - $ 749,999	1	2.7
$ 750,000 - $ 999,999	0	0
$1,000,000 - $2,499,999	4	10.8
$2,500,000 - $4,999,999	2	5.4
$5,000,000 - $9,999,999	1	2.7
$10,000,000 or more	2	5.5
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

these report that more than 50 percent of their total sales are to households. The Construction industry accounts for 40 percent of the products sold by four manufacturers, two of these report 91-100 percent of their total sales are to contractors. The Manufacturing industry also sells products to itself. Twenty-four firms report some sales to their own industry, 17 of these sell more than 50 percent of their total products to their own industry. Trade sales vary, but eight Oceanside manufacturers report that 50 percent of their total products is sold to the Trade industry. Five firms sell 91-100 percent of all their sales to the Trade sector. Government accounts for a substantial amount of manufacturing sales. Eighteen firms report sales to the government sector, two of these sell 91-100 percent of their total product to government. The figures above appear to indicate that the final demand sector and the manufacturing sector demand more manufacturing products than any of the other sectors.

Manufacturing sales to households may be further analyzed by dividing this group into military households, Oceanside residents, and nonresidents. Nine of the firms report that less than 50 percent of their household sales are to military households. Oceanside residents purchase manufacturing goods from ten of the firms. Three of these firms report 91-100 percent of their total household sales are to residents of Oceanside. Thirty-seven

firms sell products to nonresidents, 28 of these attribute more than 50 percent of their total household sales to nonresidents. More than 50 percent of the manufacturing firms are exporting.

The majority of purchases made by manufacturers are from the Construction, Manufacturing, Trade, F.I.R.E. and Utilities, Transportation, Communications industries. Three firms buy construction products, two of these purchase 91-100 percent of their total inputs from the Construction industry, and two of these import 91-100 percent of their construction inputs. The Manufacturing industry supplies inputs to 23 firms; 19 of these purchase more than 60 percent of their production goods from their own industry. Twenty firms purchase 91-100 percent of their manufacturing goods from outside of Oceanside. Eighteen companies buy more than 60 percent of their supplies from the trade sector. Seventeen of these firms import 91-100 percent of Trade purchases. Nine manufacturers buy products from the Utilities, Transportation, Communications sector. One firm purchases 91-100 percent of its inputs from this sector. One firm imports 91-100 percent of its inputs from the Utilities, Transportation, Communications sector. Manufacturing firms also purchase a small amount of inputs from the F.I.R.E. industry. One firm imports 91-100 percent of its F.I.R.E. purchases.

The Manufacturing industry might be summarized as small firms who are importing production goods to make goods pri-

marily for Households, Government, and Industries outside Oceanside.

Utilities, Transportation, Communications

Twenty-one of the firms in the sample are grouped into the Utilities, Transportation, Communications sector. The firms surveyed deal with railroad transportation, urban transit, (i.e., taxicabs, and charter service) freight transportation, warehousing and storage, transportation services, telegraph communication, radio broadcasting, and other communication services.

Employment patterns for this sector are similar to other industries in Oceanside as shown in Table 3.11. More than half of the companies have 1-10 employees. Oceanside residents are employed by 20 of the 21 firms, and most of these have 1-20 employees who live in Oceanside. Military household employment is much lower. Only six firm-have 1-3 military household employees.

Square footage is evenly dispersed among the 21 firms. Eight firms have less than 2,000 square feet and nine have more than 2,000 square feet.

Total 1976 sales are shown in Table 3.12. Seven of the nine firms who responded to the total sales question report sales between $50,000-$299,000 for 1976. Average sales for the Utilities, Transportation, Communications industry is $137,500.

Allocating total sales according to industry shows

Table 3.11

Employment in the Transportation/Communication/ Utilities Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	1	3
1 - 3	7	9	6
4 - 6	5	5	0
7 - 10	5	0	0
11 - 20	3	4	1
21 - 40	1	1	0
41 - 100	1	0	0
101 - 250	0	0	0
251 or more	0	0	0

Source: Commercial Survey of Oceanside
Copley International Corporation

Table 3.12

Utilities, Transportation, Communications Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ Less than $25,000	0	0
$ 25,000 - $ 49,999	1	11.1
$ 50,000 - $ 149,999	4	44.5
$ 150,000 - $ 299,999	3	33.3
$ 300,000 - $ 499,999	0	0
$ 500,000 - $ 749,999	0	0
$ 750.000 - $ 999,999	1	11.1
$1,000,000 - $2,499,999	0	0
$2,500,000 - $4,999,999	0	0
$5,000,000 - $9,999,999	0	0
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

that most Utilities, Transportation, Communications sales are attributed to households, followed by services, and other firms in the same industry. Ten of the companies surveyed report that 91-100 percent of their total sales are to households. This is expected because most of the firms in the sample provide urban transportation and communication services. Two firms report that 91-100 percent of their sales are to the Service industry. Two firms report that 91-100 percent of total sales are to their own industry. Three firms have some sales to the Manufacturing industry. Three firms sell more than 80 percent of their total product to the government. The large percentage of sales to households indicates that the Utilities, Transportation, Communications industry relies almost entirely on the final demand sector. There are few warehousing, storage and trucking firms, therefore sales to intermediaries are lacking.

Household sales divided according to military households, Oceanside residents, and nonresidents are widely distributed. Five of the 21 firms sell more than 50 percent of their sales to the military. Six sell more than 50 percent to Oceanside residents, and five sell more than 50 percent to nonresidents. There is some exporting of services in this sector, but the input-output model should provide a more specific analysis in this area.

Purchases made by the utilities, transportation, communications firms are primarily to the Manufacturing, Trade, and its same industries. Four companies purchase manufacturing products, two of these buy 91-100 percent of their inputs from the Manufacturing industry. All four companies import manufacturing goods. Two firms buy 91-100 percent of their inputs from manufacturing firms located outside of Oceanside. Six of the 21 firms purchase more than 80 percent of their inputs from the Trade industry. Three firms import 70-100 percent of their trade goods. Seven of the companies buy products from their own sector, five of these rely on the industry for 91-100 percent of their inputs. Four of the firms surveyed purchase more than 80 percent of their production needs from utilities, transportation, communications firms located outside of Oceanside.

The Utilities, Transportation, Communications industry is described as selling primarily to final consumers, especially households, both inside and outside of Oceanside. Most of the industry's purchases are from outside of Oceanside. This cycle corresponds to other industries in the area.

Wholesale and Retail Trade

There are 112 firms in the sample classified as Wholesale and Retail Trade. Some of the kinds of firms surveyed are sellers of auto parts, construction goods,

metals, electrical equipment, transport equipment, drugs, clothing, groceries, alcoholic beverages, furniture, and general merchandise. The large number of firms in the above list indicates that the Trade industry is a major part of Oceanside's economy.

Employment patterns in the Trade industry are similar to others in Oceanside. Eighty-one percent of the Trade firms have 1-10 employees, with the highest frequency in the 1-3 category. The distribution is shown on Table 3.13. Forty-two firms have workers from military households, 33 of these have 1-3 military employees. Oceanside residents are employed by 103 of the Trade firms, 90 percent of these firms have 1-10 resident employees.

Square footage of Trade firms is consistent with other industries. Median square footage is 2,893. The average working space of other industries is 2,801. The similarity in average square footage could be due to the fact that more than one third of the firms are in the Trade industry.

Total sales for 1976 are shown in Table 3.14. More than 84 percent of the firms have yearly sales of less than $500,000 Median sales for 1976 are $207,143. This is considerably more than median sales for all firms ($143,000). One can see by these figures that the Trade industry is an important part of Oceanside's economy.

Ninety of the Trade companies report more than 50 percent of their total sales are to households. Of these,

Table 3.13

Employment in the Trade Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	8	67
1 - 3	42	54	33
4 - 6	34	25	5
7 - 10	15	13	3
11 - 20	15	10	1
21 - 40	4	1	0
41 - 100	2	0	0
101 - 200	0	0	0
201 - 250	0	0	0
251 or more	0	0	0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.14

Trade Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	10	11.9
$ 25,000 - $ 49,999	10	11.9
$ 50,000 - $ 149,999	14	16.7
$ 150,000 - $ 299,999	21	25.0
$ 300,000 - $ 499,999	16	19.0
$ 500,000 - $ 749,999	3	3.6
$ 750,000 - $ 999,999	3	3.6
$ 1,000,000 - $2,499,999	4	4.8
$ 2,500,000 - $4,999,999	2	2.4
$ 5,999,999 - $9,999,999	1	1.1
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

63 sell 91-100 percent of their goods and services to final consumers. The other industries which dominate trade sales are Construction, Manufacturing, Services, and Trade. Two firms sell more than 70 percent of their output to the Construction industry. Three report more than 70 percent of total sales are to the Manufacturing sector. Thirteen report that 70 percent or more of sales are attributed to their own industry. Eleven of these sell 91-100 percent of their goods and services to the Trade industry. Services also account for some trade sales. Three firms sell more than 70 percent of their output to the Service industry.

It is evident that most of the demand for trade goods and services is from households. Military households are included in this group. Sixteen trade companies report that over 50 percent of their sales are to military households. Forty-two firms sell more than 50 percent to Oceanside residents. Twenty-five firms export more than 50 percent of their goods and services to households outside the City. Most of the household sales are within the City of Oceanside, but some exporting is done by 85 firms in the Trade industry.

Trade industry purchases are primarily from the Agriculture, Manufacturing, Trade, and Utilities, Transportation, Communications industries. Seven trade establishments purchase inputs from the Agriculture industry, four of these buy more than 50 percent of their

inputs from the agricultural sector. Six firms import 91-100 percent of their agriculture purchases. This indicates heavy outside competition in the agriculture industry. Some manufacturing goods are purchased by more than half of the trade firms. Thirty-two trade establishments buy 91-100 percent of their total inputs from the manufacturing sector. Forty-four of the trade firms import 91-100 percent of their trade inputs. Trade purchases are made by 72 of the firms in that industry. Forty-three firms purchase 91-100 percent of their production goods from their own industry, 45 firms import 91-100 percent of their trade purchases. These figures indicate a large amount of importing from the trade industry. This may mean that the channels which retailers and wholesalers follow when supplying foods are from outside the City of Oceanside and that the products sold are manufactured outside the area. The Utilities, Transportation, Communications industry also supplies goods and services to the trade sector. Twenty-one firms purchase inputs from this industry, but these purchases account for less than 50 percent of their total input purchases. Five firms import 91-100 percent of their Utilities, Transporation, Communications purchases. This sector may be providing trucking, storage, and/or radio advertising to trade establishments in Oceanside.

The trade sector is definitely a significant industry in the City of Oceanside. Trade sales depend almost entirely on Oceanside households. The majority of products which the Trade industry sells are imported. Thus, there appears to be a cycle in the trade sector of importing goods to supply them to Oceanside residents.

Finance, Insurance, and Real Estate (F.I.R.E.)

Nineteen Oceanside businesses belong to the F.I.R.E. classification. These include federal savings and loan association credit unions, security and commodity services, insurance agents, real estate agents, and land developers.

Table 3.15 shows the distribution of employment in the F.I.R.E. sector. Seventy-four percent of the firms have 1-10 employees. F.I.R.E. employment is small like most Oceanside firms. Sixteen of the 19 firms employ Oceanside residents. Twelve of these have less than seven workers who live in Oceanside. Only six firms have employees from military households. Five of these have 1-3 military workers.

Square footage ranges from 101 to 50,000 square feet. The median working space is 1,600 square feet. This is below the average size of all the firms in the sample (2,801) and may be due to the fact that most of the F.I.R.E. firms surveyed are real estate or insurance agents who do

Table 3.15

Employment in the Finance/Insurance/
Real Estate Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	3	13
1 - 3	5	7	5
4 - 6	6	5	1
7 - 10	3	1	0
11 - 20	3	2	0
21 - 40	1	0	0
41 - 100	0	1	0
101 - 250	1	0	0
251 or more	0	0	0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

not require large amounts of space.

Total sales for F.I.R.E. firms (Table 3.16) shows a broad distribution. Average sales for 1976 is $262,500. This is much higher than the average sales for all firms in 1976 (143,000). The great difference is due primarily to the nature of the F.I.R.E. industry. Real estate agents, commodity brokers, credit unions and savings and loans are dealing with large sums of money because of the particular services they provide.

Most of the F.I.R.E. sales are to households and other firms in the F.I.R.E. industry. Nine of the 19 firms sell more than 50 percent of their services to households. Six of these attribute 91-100 percent of their total sales to households. Five firms report some sales to their own industry. Two of these sell 91-100 percent of their output to their own industry. This may be due to the interrlationship of F.I.R.E. services. For example, a realtor sells a house, a savings and loan gives the mortgage, and an insurance agent provides theft and fire protection.

The types of households who purchase F.I.R.E. services are primarily Oceanside residents. Five firms report more than 60 percent of their sales are to Oceanside residents. Only one firm sells more than 50 percent of its sales to military households. Military demand for F.I.R.E. services is lower because military households are not permanent and

Table 3.16

F.I.R.E. Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	1	9.1
$ 25,000 - $ 49,999	1	9.1
$ 50,000 - $ 149,999	2	18.2
$ 150,000 - $ 299,999	2	18.2
$ 300,000 - $ 499,999	1	9.1
$ 500,000 - $ 749,000	0	0
$ 750,000 - $ 999,999	1	9.1
$ 1,000,000 - $2,499,999	1	9.1
$2,500,000 - $4,999,999	1	9.1
$5,000,000 - $9,999,999	1	9.1
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

some F.I.R.E. services may be offered by the Government at lower costs to the military. There are some F.I.R.E. sales outside of Oceanside but the majority of the companies interviewed report that out-of-City sales are less than 50 percent of their total sales.

The F.I.R.E. industry purchases goods and services mainly from the Trade, Manufacturing, and Construction industries. Five F.I.R.E. establishments report that more than 50 percent of their inputs are purchased from the Trade industry. Two of these import 91-100 percent of their Trade purchases. The manufacturing industry supplies some products also. Two firms report that more than 50 percent of their production goods are from this sector. Three F.I.R.E. companies import 91-100 percent of their manufacturing needs. Two firms purchase more than 50 percent of their inputs from the construction industry, one firm imports 81-90 percent of its purchases from this sector. F.I.R.E. establishments also buy products from their own industry. Two firms report that more than 60 percent of their inputs are supplied by their own industry. Three firms import more than 70 percent of their F.I.R.E. purchases. Some products are supplied by the Utilities, Transportation, Communications industry, but these are less than 40 percent of total F.I.R.E. inputs.

The F.I.R.E. industry in Oceanside appears small but generates a large amount of dollar sales primarily from

households. The purchases made by F.I.R.E. establishments are mainly from industries outside of Oceanside.

Services

The types of firms which belong to the service industry in Oceanside are: laundries, dry cleaners, beauty salons, business services, auto services, miscellaneous repair services, health services, and educational services.

Employment trends in the service sector are shown in Table 3.17. Twenty-nine out of the 40 firms have 1-6 total employees. Oceanside residents are employed by 93 percent of the Service industry, but 80 percent of the industry employs only 1-6 residents. Military households represent a small portion of the employment picture. Thirteen service firms have 1-6 employees from military households. These results indicate that Oceanside residents comprise the largest portion of the labor force in the Service industry.

Square footage varies widely among service establishments. Working space ranges from 100 square feet to 50,000 square feet. Median square footage for the service sector is 2,330 square feet. This is consistent with other Oceanside industries since the average working space for all industries is 2,801 square feet.

Table 3.18 shows the distribution of total sales for 1976 in the Service industry. Approximately 82 percent of this sector reports annual sales less than $150,000.

Table 3.17

Employment in the Service Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Household Employment
0	0	3	26
1 - 3	18	20	8
4 - 6	11	12	5
7 - 10	5	0	0
11 - 20	3	3	1
21 - 40	3	1	0
41 - 100	0	0	0
101 - 250	0	0	0
251 or more	0	0	0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.18

Service Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	8	24.2
$ 25,000 - $ 49,999	9	27.3
$ 50,000 - $ 149,999	10	30.3
$ 150,000 - $ 299,999	2	6.1
$ 300,000 - $ 499,999	3	9.1
$ 500,000 - $ 749,999	0	0
$ 750,000 - $ 999,999	0	0
$ 1,000,000 - $2,499,999	1	3.0
$ 2,500,000 - $4,999,999	0	0
$ 5,000,000 - $9,999,999	0	0
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

The median sales figure is $48,600. This is extremely low compared to the median for all sectors ($143,000). This difference in sales may indicate that Oceanside residents are shopping outside the City.

Allocation of total sales by consumers indicates that housholds demand more service products than any other sector. Twenty of the 40 service establishments report that more than 50 percent of their total sales are to households. Approximately 38 percent of the Service industry attributes 91-100 percent of their total sales to households. The Construction industry also purchases service products. Two service firms attribute more than 70 percent of their yearly sales to this sector. Four service firms report that more than 50 percent of their total product goes to the Trade industry. The Service industry also attributes more than 60 percent of their total sales to their own sector.

A more detailed analysis of household sales shows the breakdown among military, Oceanside and nonresident households. Approximately 63 percent of the service sector sells a portion of their total product to military households. Three firms report more than 50 percent of their household sales are to the military group. Oceanside residents account for sales of 73 percent of the Service industry. Seventeen firms report that Oceanside residents purchase more than 50 percent of their total household sales. Exporting is done by 85 percent of the service

sector, but only 2 percent attribute more than 50 percent of their household sales to nonresidents. The Service industry is concentrating on Oceanside residents more than any other household market, but the large percentage of firms exporting a portion of their sales may be a sign of increasing demand for services by nonresidents.

Inputs for the service sector are purchased from the Manufacturing, Trade, Utilities, Transportation and Communications, and Service industries. Eighteen Oceanside service establishments purchase inputs from the manufacturing industry. Six of these firms rely on the manufacturing sector for 91-100 percent of their total inputs. Four service companies import 91-100 percent of their manufacturing needs. Twenty-two service firms purchase inputs from the trade sector. Ten of these attribute 91-100 percent of their total purchases from this sector. Approximately 35 percent of the Service industry imports more than 70 percent of its trade purchases. Two service establishments report that more than 60 percent of their inputs are from the utilities, transportation, and communication sector. Two import more than 80 percent of these goods and services. The Service industry also purchases inputs from itself. Approximately 43 percent of the service sector purchase inputs from itself. Of these, 15 percent buy more than

70 percent of their inputs from the service industry, and five percent more than 70 percent of the services they purchase.

The majority of the service industry purchases most of their goods and services used in production from the wholesale and retail trade industry. Sales in the service sector are primarily to households, the majority of which are Oceanside households.

Tourism

There are 38 firms in Oceanside who engage in the tourist industry. Examples of these are restaurants, drinking places, hotels, dance halls, bowling alleys, amusement parks and business organizations. Approximately 45 percent of the tourist industry are restaurants. The determination of which firms would comprise this sector was made along traditional recreational lines. Therefore, this sector does not necessarily involve the "tourist" (outside Oceanside resident) trade. An attempt to more narrowly define the trade sector would have caused data collecting as well as statistical problems. (See Chapter 5).

Tourism employment patterns are shown in Table 3.19. Total employment in tourist establishments ranges from 1-100, with ten firms having 1-3 workers. Approximately 95 percent of the tourist sector employ Oceanside residents, 91 percent of them employ 1-20 workers who live in Oceanside. Employees from military households are employed by 39 percent of the tourist industry, 94 percent of these have 1-6 military workers.

Square footage for the tourist sector varies. The median working space fo this industry is 3,500 square feet. This is larger than the median square footage in other sectors and may be due to

Table 3.19

Employment in the Tourist Industry

Number of Employees	Number of Firms		
	Total Employment	Oceanside Employment	Military Employment
0	0	1	19
1 - 3	10	12	12
4 - 6	8	8	1
7 - 10	7	7	2
11 - 20	7	6	0
21 - 40	3	1	0
41 - 100	3	2	0
101 - 250	0	0	0
251 or more	0	0	0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

the nature of the tourist industry. Bowling alleys, amusement parks and hotels are some examples of this industry which require large amounts of space.

Tourism sales for 1976 (Table 3.20) range from $25,000 to $999,999. Median sales for this sector are $114,000. This is lower than the other sectors' median sales ($143,000) and may indicate that there is competition outside of Oceanside in this sector.

Allocating sales by consumers shows that 25 of the 38 tourist firms attribute 91-100 percent of their total sales to households. The only other industry that accounts for a significant portion of tourist sales is the tourist industry itself. Eighteen percent report some sales to their own industry. One firm attributes 91-100 percent of its total product to the tourist industry.

Total household sales can be analyzed according to military, Oceanside, and nonresident households. The military group purchases goods and services from 61 percent of the industry. Of these, 21 percent attribute more than 50 percent of their household sales to the military. The large amounts of military sales reflect the restaurants, drinking places, and amusement centers that are frequented by the Camp Pendleton enlisted men. Oceanside resident sales are higher than the military sales. Approximately 25 percent of the tourist sector sells products to Oceanside residents. Of this group, 34 percent attribute more than half of their household sales to City residents. Nonresidents are reported as purchasing tourist products also. An estimated 13 percent of this sector sells more than 50 percent of its

Table 3.20

Tourist Sales
1976

Total Dollar Sales	Number of Firms	Percentage
$ 25,000 or less	5	21.7
$ 25,000 - $ 49,999	2	8.7
$ 50,000 - $ 149,999	7	30.4
$ 150,000 - $ 299,999	5	21.7
$ 300,000 - $ 449,999	2	8.7
$ 500,000 - $ 749,999	0	0
$ 750,000 - $ 999,999	2	8.7
$ 1,000,000 - $2,499,999	0	0
$ 2,500,000 - $4,999,999	0	0
$ 5,000,000 - $9,999,999	0	0
$10,000,000 or more	0	0
		100.0%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

household sales to nonresidents. This portion of the tourist sector is exporting goods and services.

Tourist inputs are purchased mainly from the trade industry, followed by the tourist industry. Of the group which buys trade products, 66 percent report that more than 50 percent of their inputs are from this sector. An estimated 50 percent of trade consumers purchase 91-100 percent of their total inputs from this industry. Importing of trade products is done by 50 percent of the tourist firms who purchase trade inputs. The tourist industry also buys inputs from itself. This is true for 13 percent of the industry, and 8 percent report that 91-100 percent of their inputs are from their own sector. Two of these tourist firms import 91-100 percent of their tourist inputs.

The Oceanside tourist industry relies primarily on Oceanside residents, although military households make a substantial amount of purchases. Only a small portion of tourist goods and services is sold outside the area.

STANDARD ECONOMIC BASE ANALYSIS

Introduction to Economic Base Analysis

Economic base analysis is a process that directly relates the importance of an "urban area's exports to the income, employment and production of the area itself."* For the purpose of this study, the exports of a city are the portion of its production

*Werner Z. Hirsch, Urban Economic Analysis (New York: McGraw-Hill Book Company, 1973, p. 186.

which is sold to markets outside the city. For example, the amount of sales that Oceanside firms supply to Carlsbad households would be considered an export.

The idea behind an economic base analysis is that there is an interrelationship between exporters and the rest of the industry in an urban area. This relationship can be expressed in the following cycle of events. Sales outside the city create a need for labor in exporting industries. This additional labor will create sales for all industries in the urban area by spending its wages on goods and services produced within the area. These local industries will then hire more labor to meet added demand and the cycle continues. This approach is one dimensional in nature since the only sector being considered is the export sector. It will, however, provide an overall picture of the flow of goods out of the area. A more detailed analysis of the goods' flow is outlined in the next chapter.

To determine the effects of export activities on the local economy in the above cycle, a functional relationship called a "multiplier" is calculated. The first step in analyzing the relationship between the urban area and outside areas is to define the exporting industries. For the purpose of this study, the local sector is all firms in each industry who sell their goods and services within the city. The nonlocal sector is all firms in each industry who sell their goods and services outside the city. The next step in the economic base analysis is determining what measure of economic activity to use. Employment is the most frequently used measure because a certain amount of jobs in the local sector is derived from the activities of the nonlocal sector.

An equation (3.1) may be used to determine change in an urban area's total employment caused by a change in non-local employment.

$$(3.1)\quad \text{Change in total employment} = \left(1 + \frac{\text{local employment}}{\text{non-local employment}}\right) \times \text{change in non-local employment}$$

where $\left(1 + \frac{\text{local employment}}{\text{non-local employment}}\right)$ is the multiplier.*

For a one-unit change in non-local employment, the total employment for the urban area will change by the amount of the multiplier.

Changing the unit of measurement from employment to sales will lead to a multiplier that measures the change in total sales caused by non-local sales. The reasoning behind this is that a portion of the revenue from the sales of goods and services outside the area is used as wages to residents. Therefore, increased exports lead to increased incomes and increased spending of local residents. The measure of economic activity caused by exports is the sales multiplier shown in equation (3.2).

$$(3.2)\quad \text{Sales multiplier} = \left(1 + \frac{\text{local sales}}{\text{non-local sales}}\right)$$

For a one-unit change in non-local sales, the total sales for the urban area will change by the amount of the multiplier.

The formulas presented above have been criticized because they do not identify internal relationships, but they do indicate that an urban area is affected by activities outside of the area.

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*Ibid, p. 190.

Economic Base for the City of Oceanside

Multiplier Effects. The commercial survey of 301 Oceanside firms is the source of information used to identify the local and nonlocal sectors in the area. For this study, the local sector is defined as those firms in each industry which sell 50 percent or more of their household sales to Oceanside residents. The nonlocal sector is defined as those firms in each industry which sell 50 percent or more of their household sales outside of Oceanside.

Employment Multiplier. The employment multiplier was calculated according to equation (3.1). The employment multiplier for the City of Oceanside is 1.53. Therefore, for every additional job created in the nonlocal sector, 1.53 jobs are created in the entire urban areas; one job is in the nonlocal sector and .53 jobs are in the local sector.

Sales Multiplier. The sales multiplier for the City of Oceanside is calculated from equation (3.2). The Oceanside sales multiplier is 1.76. Therefore, every additional dollar of nonlocal sales generates 1.76 dollars for the entire City: one dollar of nonlocal revenue and .76 dollars of local revenue.

A word of caution must be inserted here. Multipliers are often misunderstood. The value of this type of analysis is not in the absolute size of the multiplier. Looking solely at the numerical value of the multiplier can be misleading. In order to obtain the full value of the information contained in this

approach, any analysis of the multipliers and their impact must be done in the contexts of the information set used to generate the multipliers. Thus, in the case of the Oceanside economic base multipliers, they must be interpreted with regard to the structure of the Oceanside economy. The information presented earlier concerning the firms in Oceanside provides the required base necessary for this analysis. One of the conclusions drawn from this information was the significant amounts of output Oceanside firms sold to industries and households inside of Oceanside. When taking this fact into account, the estimated multipliers do not appear unreasonable.

One point to remember when analyzing multiplier effects of an urban area is that these equations refer to the short run. When applying the multipliers, it must be assumed that the propensity to consume is stable and that the only changes affecting income are changes in non-local sales. The multipliers may become invalid if there are changes in the propensity to consume, the levels of productivity which, in turn, may decrease the amount of labor needed for production.

Exports versus Imports: Local Sector. The number of Oceanside firms in the local sector is 171. Table 3.21 indicates the distribution of local sales by the major sectors which will later be used for the input-output model. The following trends emerge from analyzing local sales:

1. Households purchase more goods and services from the local sector than any other group. This is expected because the local industries supply most of the basic needs of the community, such as food, education, housing and medical care.

Table 3.21

Local Sales Distribution By Major Industries

Percentage of Total Sales	Households		Construction		Manu-facturing		Trade		F.I.R.E.		Trans./ Comm./ Utilities		Services		Agriculture		Tourism	
	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%
None	26	15.4	147	87.0	147	87.5	134	79.3	160	94.1	160	94.7	149	87.6	165	96.5	157	92.4
1 - 5 %	4	2.4	2	1.2	7	4.2	7	4.1	3	1.8	4	2.4	5	2.9	1	0.6	5	2.9
6 - 10	0	0.0	4	2.4	4	2.4	7	4.1	2	1.2	1	0.6	5	2.9	1	0.6	2	1.2
11 - 15	0	0.0	3	1.8	2	1.2	0	0.0	0	0.0	0	0.0	1	0.6	1	0.6	0	0.0
16 - 20	2	1.2	1	0.6	1	0.6	2	1.2	2	1.2	1	0.6	0	0.0	1	0.6	2	1.2
21 - 30	2	1.2	7	4.1	2	1.2	2	1.2	1	0.6	0	0.0	1	0.6	0	0.0	0	0.0
31 - 40	2	1.2	0	0.0	0	0.0	4	4.1	0	0.0	1	0.6	0	0.0	0	0.0	1	0.6
41 - 50	12	7.1	1	0.6	1	0.6	4	4.1	0	0.0	0	0.0	3	1.8	0	0.0	2	1.2
51 - 60	4	2.4	0	0.0	2	1.2	2	1.2	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
61 - 70	4	2.9	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6	1	0.6	0	0.0	0	0.0
71 - 80	13	7.7	0	0.0	0	0.0	3	1.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
81 - 90	9	5.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
91 - 100	91	53.8	4	2.4	2	1.2	4	2.4	1	0.6	1	0.6	5	2.9	0	0.0	1	0.6
Total		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.22

Percentage of Total Purchases in Each Industry / Percentage of Purchases Imported From Each Local Firms

	Percentage of Total Purchases												
	None	1-5%	6-10%	11-15%	16-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%
Firms Purchasing Agriculture Inputs	158	1	3	0	1	1	1	2	1	0	1	0	2
Firms Importing Agriculture Inputs	160	0	1	0	0	0	0	1	0	0	0	0	9
Firms Purchasing Construction Inputs	160	1	2	0	1	1	1	1	1	0	1	0	1
Firms Importing Construction Inputs	163	1	0	0	1	0	0	2	0	0	0	1	2
Firms Purchasing Manufacturing Inputs	101	3	6	2	3	3	8	7	1	2	2	0	33
Firms Importing Manufacturing Inputs	104	2	4	1	1	1	0	6	0	0	3	0	46
Firms Purchasing Trade Inputs	54	3	5	1	5	6	7	5	3	5	6	7	62
Firms Importing Trade Inputs	66	2	4	0	4	6	1	9	3	2	9	9	54
Firms Purchasing F.I.R.E. Inputs	136	10	7	2	4	2	0	0	1	1	0	0	1
Firms Importing F.I.R.E. Inputs	155	1	2	0	1	0	1	1	0	0	2	1	7
Firms Purchasing Transportation/ Communications/Utilities Inputs	119	23	6	3	2	4	2	1	0	1	1	1	3
Firms Importing Transportation/ Communications/Utilities Inputs	153	2	4	0	0	0	0	1	0	1	1	2	6
Firms Purchasing Services Inputs	139	13	5	0	3	3	1	0	0	0	1	0	4
Firms Importing Services Inputs	153	5	4	0	1	0	0	1	0	0	1	1	5
Firms Purchasing Tourism Inputs	165	0	2	0	0	0	0	0	0	0	0	0	3
Firms Importing Tourism Inputs	167	1	0	0	0	0	0	1	0	0	0	0	2
Firms Purchasing Other Inputs	169	0	2	0	0	0	0	0	0	0	0	0	1
Firms Importing Other Inputs	169	0	0	0	0	0	0	0	0	0	0	0	1

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

2. There is little demand for local goods and services from the other industries in Oceanside. This may imply two things: the majority of purchases made by Oceanside industry are imported, and the types of goods and services which the local sector produces are limited to consumption goods.

Table 3.22 depicts the relationship between total inputs purchased and those imported. The high percentage of purchases imported from the Agriculture, Manufacturing, Trade, Fire, Utilities, Transportation and Communications, and Service industries corresponds to the low sales distribution in the local sector of those industries, as indicated in Table 3.21. The results of these two tables indicate that local firms are importing their production goods to produce consumer goods which are intended for one market -- households.

Exports versus Imports: Non-Local Sector. The non-local sector consists of 130 Oceanside firms. Table 3.23 shows that exports are distributed primarily to Households, Construction, Manufacturing and Trade industries. Non-local industry sells more goods and services to households than to any other industry. To determine what effect military households have on total household exports, non-local sales were computed for military households. An estimated 25 percent of the exporting firms report that some of their sales are to persons from military households. This figure may be below the actual amount of military spending in Oceanside because those military personnel residing on Camp Pendleton premises are excluded.

The non-local sector has a considerable amount of sales to the Construction, Manufacturing and Trade industries. This

Table 3.23

Non-Local Sales Distribution By Major Industries

Percentage of Total Sales	Households		Construction		Manu-facturing		Trade		F.I.R.E.		Trans./ Comm. Utilities		Services		Agriculture		Tourism	
	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%
None	66	52.8	99	78.6	98	78.4	96	75.6	122	96.1	118	94.4	116	92.1	119	93.7	120	96.0
1 - 5 %	3	2.4	4	3.2	2	1.6	2	1.6	2	1.6	2	1.6	1	0.8	1	0.8	3	2.4
6 - 10	2	1.6	3	2.4	0	0.0	4	3.1	0	0.0	0	0.0	2	1.6	1	0.8	0	0.0
11 - 15	1	0.8	2	1.6	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16 - 20	1	0.8	1	0.8	0	0.0	1	0.8	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0
21 - 30	2	1.6	2	1.6	1	0.8	1	0.8	0	0.0	2	1.6	1	0.8	1	0.8	1	0.8
31 - 40	0	0.0	3	2.4	2	1.6	2	1.6	0	0.0	0	0.0	0	0.0	1	0.8	1	0.8
41 - 50	3	2.4	2	1.6	2	1.6	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
51 - 60	2	1.6	0	0.0	2	1.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
61 - 70	0	0.0	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
71 - 80	3	2.4	2	1.6	1	0.8	1	0.8	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0
81 - 90	4	3.2	0	0.0	1	0.8	-	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
91 - 100	38	30.4	8	6.3	15	12.0	18	14.2	2	1.6	3	2.4	5	4.0	4	3.1	0	0.0
Total		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

Table 3.24

Percentage of Total Purchases in Each Industry / Percentage of Purchases Imported From Each Non-Local Firms

	Percentage of Total Purchases												
	None	1-5%	6-10%	11-15%	16-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91-100%
Firms Purchasing Agriculture Inputs	115	1	1	1	0	0	1	0	0	0	0	0	2
Firms Importing Agriculture Inputs	117	0	0	0	0	0	0	0	0	0	0	1	4
Firms Purchasing Construction Inputs	114	2	0	1	0	0	0	1	0	2	0	0	3
Firms Importing Construction Inputs	114	1	0	1	0	0	0	2	0	0	1	0	4
Firms Purchasing Manufacturing Inputs	70	0	5	0	1	1	1	6	2	2	1	6	27
Firms Importing Manufacturing Inputs	71	2	0	0	0	1	1	4	1	0	1	4	38
Firms Purchasing Trade Inputs	52	3	2	2	5	4	2	2	0	2	3	2	41
Firms Importing Trade Inputs	57	2	0	0	0	2	2	3	2	2	3	4	42
Firms Purchasing F.I.R.E. Inputs	106	4	4	0	3	0	0	0	1	0	0	0	0
Firms Importing F.I.R.E. Inputs	111	1	0	0	2	0	0	1	0	0	0	0	7
Firms Purchasing Transportation/ Communications/Utilities Inputs	93	7	5	0	5	2	1	0	0	1	0	0	6
Firms Importing Transportation/ Communications/Utilities Inputs	108	1	1	0	2	1	0	3	0	1	0	1	5
Firms Purchasing Services Inputs	107	6	3	0	1	0	0	0	1	0	0	2	1
Firms Importing Services Inputs	116	2	1	0	0	0	1	0	0	0	0	0	1
Firms Purchasing Tourism Inputs	119	2	1	0	0	0	0	0	0	0	0	0	1
Firms Importing Tourism Inputs	121	0	0	0	0	0	0	0	0	0	0	0	2
Firms Purchasing Other Inputs	118	1	0	0	0	1	0	0	0	0	0	1	2
Firms Importing Other Inputs	120	0	0	0	0	0	0	0	0	0	1	0	2

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

indicates some production of intermediate goods are exported to the Construction and Manufacturing industries and some final goods which are sold through trade outlets. The Trade industry's demand for Oceanside products is actually a link between households and producers. Therefore, one can conclude that most of the non-local sales are to households, and that the types of products sold are final goods and services.

Purchases made by non-local firms are shown in Table 3.24. There is a high percentage of firms who import some of their inputs from the Agriculture, Construction, Manufacturing, Trade, Fire, Utilities, Transportation and Communications industries. As with the local sectors, the large amount of importing may indicate that Oceanside firms are not supplying enough production goods.

To summarize the flows of goods and services in Oceanside, Oceanside firms are concentrating their production of consumer goods and services. Therefore, a large number of imports are needed to supply the production goods they require.

SUMMARY

The commercial phase of the Oceanside economic base study reveals some important information about the City. The Trade sector appears to be the most viable industry in the City of Oceanside. The majority of sales in all sectors is to final consumers. All the industries import production goods. The

majority of products sold in Oceanside are consumer goods. These facts lead to the conclusion that the Oceanside economy is almost entirely consumer oriented. The input-output model will analyze the sector relationships in more detail.

CHAPTER 4

INPUT-OUTPUT MODEL OF OCEANSIDE

PURPOSE OF CHAPTER

In the past few years, cities have become more and more aware of the interdependence between different sectors and individuals within a community. Daily, occurrences in one sector of the city are seen to have an impact on a wide range of other sectors, thus affecting a multitude of individuals. At the community level, complex problems exist involving employment, growth, environment, and life styles. It is easy to see that linkages exist between the many different facets within and outside the community. In order to deal with these complex interrelationships, a great deal of information is required. In terms of the Economics of Oceanside's Baseline Study, these issues must be addressed.

If a community is going to implement a change, it must have a firm understanding of its present situation, a well drawn plan for its future growth, and a clear idea of the best ways to implement that growth. Since it is the purpose of input-output models to provide the cornerstone for this type of analysis, an input-output model for the City of Oceanside is the next logical step towards building up the required information base needed for responsible decision making.

An input-output model disaggregates economic activity into different sectors (industries, households, government, etc.)

enabling one to analyze the interdependence, activities, and influences that exist between the sectors. This tool, though first used at the national level, is now being used more and more at regional levels. The possible roles of an input-output model for enhancing the decision maker's ability to handle problems are quite large. The initial attraction is that it provides information that can be used for decision making. The model numerically explores the present relationships that exist between the different sectors, giving an indication of the structure of the economy. Also, the model provides information concerning the possible impact that change will have on the economy, giving an indication of what happens as the economy changes. This type of information would be useful in the areas of budgeting, setting of priorities, guidance for planning, estimating future community needs, and evaluating resource allocation problems (i.e., employment, industry base) and economic activity required to meet new proposed objectives for the community. The local government's increasing role in community planning requires an understanding and knowledge of the interrelations that exist in the economy. Also, the input-output model can be used effectively as a short term forecasting tool. Today's employment problems can be approached with greater efficiency through utilizing the information contained in the input-output model. Useage of the input-output model will enlighten numerous areas which require the decision makers consideration; these areas could include possible sectors (industries) to stimulate, sectors reaching capacity, overall

impacts that the different sectors have, and detection of problem areas within and/or between sectors.

Examples of previously done input-output models estimated in the region have been prepared by the Economic Research Bureau of San Diego[1], Western Behavioral Sciences Institute[2], and CIC[3]. The first model was part of the Economic Development Research Program; Economic Base Study of 1966. San Diego was the region studied in this project. Fourteen industrial sectors and up to seventeen final demand sectors were used. The project briefly reviewed the methodology and uses of input-output models, and then generated estimates of the model. In 1969 Dr. Tore Tjersland, in Regional Inter-Industry Economics; The Economic Structure of Metropolitan San Diego, 1968, analyzed the City of San Diego. Fourteen industrial sectors and eight final demand sectors were used. This study also provided a review of input-output methodology with respect to regional applications. Also, estimates for the input-output model were given. Finally, in Economic Impact Analysis System, 1976 by CIC, the entire San Diego County was analyzed using an input-output model. Thirty-one industrial sectors and eight final demand sectors were evaluated. Contained in this project was a review of

1 - Economic Research Bureau of San Diego; San Diego Economic Development Research Program, June 1966.

2 - Tore Tjersland, Western Behavioral Sciences Institute; Regional Inter-Industry Economics, The Economic Structure of Metropolitan San Diego - 1968, June 1969.

3 - Copley International Corporation; Economic Impact Analysis System, 1976.

input-output analysis and estimates of the model. Thus, input-output techniques have a substantial history as an analytical tool within the region.

The remainder of the chapter will focus on the following areas:

i) A brief explanation of the methodology of input-output analysis.

ii) The mechanics of how the Oceanside Model was formulated.

iii) The presentation of the model.

iv) Evaluation and interpretation of the model.

The methodology portion of this chapter will consist of a presentation of the theory of input-output models; how a model is formulated and interpretated. Special attention will be given to the assumptions underlying this type of economic model. The formulation section will discuss how the actual input-output model was generated. The determination and measurement of the different sectors will be considered. The presentation section will include the actual input-output model. An explanation will be given on how to read and understand the elements contained in the Oceanside model. The evaluation and interpretation portion will provide insight and interpretation to the numbers contained in the model. Also, limitations to this approach will be discussed.

METHODOLOGY OF INPUT-OUTPUT MODELS

This section of the chapter familiarizes the reader with the underlying theory of input-output analysis. Wassily Leontief, the so-called father of input-output analysis, had the following idea concerning the American economy: "An economy consists of a large number of consumers and producers who conduct among themselves transactions - sales and purchases of goods. Statistical measurement of these transactions will make clear in what manner individual economic units are dependent on one another".[4] This idea is at the center of input-output analysis. The important points for consideration are: (1) the analysis deals with transactions between buyers and sellers; and (2) the analysis shows the interdependence that exists between the different economic agents.

The economic system (city, state, etc.) is viewed in terms of a self-contained entity affected by exogenous shocks, i.e., changes in variables from areas outside the system. This type of approach is called an open input-output model which is the one most appropriate for an urban area. The unit of analysis is the sector. This could be different types of industries or households or government, etc. The different sectors are broadly classified into industrial sectors, e.g., manufacturing, trade, tourism, etc., and final demand, e.g., households, government, exports, etc. Thus, the model focuses on interindustry and

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4 - K.C. Kogiku, Microeconomic Models, Chapter 8, Harper & Row, Publishers 1971.

final demand relationships. The transactions entered into by these different sectors can be measured in many different ways, such as output, sales, and employment. For the purposes of this study, both sales and employment measures will be used.

Transaction Matrix

The initial breakdown of the system into the modes necessary for input-output analysis is called the transaction matrix. In order to generate the matrix, the following assumptions are made: first, within each sector, each industry produces the same output, and second, only one output is produced by each sector. In other words, all elements that compose a sector are homogeneous. This assumption implies that within the household sector all consumers are alike and that they react similarly to changes in their environment. Each sector is assumed to be stable during the period of analysis. Stability does not mean constant. This assumption implies that the relationships between the different components in the economic system are maintained. In terms of the industrial sectors, this implies that production functions are relatively constant. A production function is a mathematical expression which shows the relationship between the quantity of inputs employed and the quantity of output produced. The production function of each industry is a linear combination of its inputs. This assumption is not as nonsensical as it may sound. The input-output model used here is of a static nature, looking at one point in time; this fact enhances the credibility of the linear assumption. Even if the production function is non-linear, for a point in time, a linear approximation should be satisfactory. The production function is for a single output only, thus ignoring the

possibility of joint products. A given product is supplied by only one of the sectors. Also, inventories are assumed to be constant. In summary, these assumptions provide for a clear, workable model which, when used properly, can be a valuable tool in decision making. The resulting model focuses only on the essential relationships that exist between the different sectors without becoming lost in the intricacies of a completely realisti model. The above assumptions define the composition of an industry's output. The industry's gross output is the sum of the intermediate demands by the other industries for its output plus the demand by final consumers (households, government, etc). The transaction matrix is formed by arranging these intermediate demands according to the different industries in the model.

Simple Illustration

To illustrate, consider a simple three-industry economy which produces coal, steel, and the service of railroad transportation (RR).[5] Table 4.1 shows an example of a transaction matrix:

Table 4.1

	Steel	Coal	RR	Other	Total Output
Steel	2	2	1	5	10
Coal	4	1	3	2	10
RR	2	5	1	2	10

5 - Baumol, W.J.; Economic Theory and Operational Analysis, 2nd Edition, pg 481; Prentice-Hall.

Each row of the matrix shows the portion of its output that goes to other industries. This matrix of interindustry flows measures only the relationship between industries within the system which is being analyzed. Referring to the example above, coal sells 4 of its output to steel, 1 to itself, and 3 of its output to RR. The rest goes to final demand. Each column depicts the inputs each industry requires. Thus, RR uses 1 of steel's output, 3 of coal's output, and 1 of its own output to produce its product. This matrix provides the first look at the make-up of a particular economic system.

Input Coefficient Matrix

The next step is to identify the input coefficients for each industry. This requires some additional assumptions. First, it is assumed that there exist constant proportions among inputs and outputs for each industry. This means that the input coefficients are fixed. A lot of theoretical work has been done concerning the impact of this assumption. This has centered around the question of substitutability of input in the production process. As long as the total outlay to the inputs remains constant during the period of analysis (this is also an assumption), the substitutability question can be ignored. The input coefficients are determined as follows: A coefficient of a given row industry is equal to the intermediate demand for its output by a column industry divided by the gross output of that column industry. Thus, for our example, the input coefficient matrix is:

Table 4.2

	Steel	Coal	RR
Steel	.2	.2	.1
Coal	.4	.1	.3
RR	.2	.5	.1
Value Added	.2	.2	.5

This matrix provides an indication of the direct amount of inputs required to produce a given output. Thus, steel requires directly for each unit it produces .2 units from itself, .4 units from coal, and .2 units from RR, plus other input denoted by value added, e.g., labor. The input coefficient matrix provides some important information concerning the direct effect that the industrial sectors have upon themselves and the rest of the system. With an increase in final demand, one can determine the direct input requirement necessary to meet the change in demand.

Impact Multiplier Matrix

The above, however, does not give the true picture of the total effect. For example, as an industry adjusts to increases in demand, additional inputs from other industries will be required to increase its own production. This interaction between industries is the indirect effect of the initial change. Consequently, the total effect of any change in the system is the sum of the direct effects (contained in input coefficient matrix) and the indirect effects. The total effect can be determined by applying the mathematical technique of inversion to the entire system. This can be illustrated by using the following notation:

Let A = the input coefficient matrix
X = gross output matrix
x = final demand matrix

Therefore, the system can be written in matrix notation as:

$$AX + x = X$$

or

$$(I-A)X = x$$

where I is the identity matrix

if (I-A) is non-singular then

$$X = (I-A)^{-1} x$$

Referring back to the example used (I-A) is

Table 4.3

$$\begin{bmatrix} .8 & -.2 & -.1 \\ -.4 & .9 & -.3 \\ -.2 & -.5 & .9 \end{bmatrix}$$

By inverting the above matrix, $(I-A)^{-1}$ is obtained.

Table 4.4

	Steel	Coal	RR
Steel	1.6	0.57	0.37
Coal	1.1	1.7	0.69
RR	0.94	1.1	1.6

Thus, .69 tells the amount of output that the coal industry must increase in order to meet a one unit increase in final demand for RR output. The number .69 represents the summation of all direct and indirect effects discussed before. This information can provide the answer to a series of related questions. For example, it can estimate the impact on the output of the

community if federal money is expected to enter the system. Or, if a particular sector of final demand is stimulated, which industry will have the greatest multiplier effect on output? The elements of $(I-A)^{-1}$ provide the total effect measures. They indicate by how much the gross output of the i^{th} industry has to change corresponding to a unit change in the j^{th} industry's final demand. These elements are commonly referred to as impact multipliers. These multipliers become the numerical values which show the magnitude of connectiveness that exists between the industries in the model.

In order to handle the regional nature of this analysis, certain modifications must be introduced into the structure of the model. Since the industries within the system will use inputs from other industries outside the system, and also sell its output to industries outside the system, these actions must be included in the model. The use of an import and export sector accomplishes this need.

The sectors which make up the final demand of a given output will reflect the different types of final users for the product. The classification of these users can be varied according to the requirements of the study. Those classifications for the Oceanside Model will be discussed in the next section of the chapter.

This brief explanation of the input-output model illustrates the potential usefulness for regional planning analysis. In a very straight forward and concise manner, the interdependence

of a community's industrial sectors can be structured, estimated, and then evaluated. The input-output model framework allows for the analysis of how different shocks (demand or supply induced) will likely affect the system. The value of this information, if used properly, will be extremely beneficial in overall planning and redevelopmental programs.

FORMULATION OF MODEL

This portion of the chapter will concentrate on the methods and techniques involved in the actual formulation of the Oceanside Input-Output Model. First, the type and framework of the model will be presented. This includes areas such as the dimension of the model, units of measurement employed, and the final demand components used. Second, a brief discussion will be included to show what data was available and how this data provided the necessary information for the model. Finally, an explanation of the overall structure of the model will be given.

Type and Framework of Model

The type of model used in this analysis is known as the 'rows only' model. The advantage of this approach is that it requires only sales information from the different industries to be able to generate the input-output model. Therefore, the approach assumes that the output of one industry becomes the input of another industry. Given the constraints such as time and costs which are relevant to this analysis, this approach enables the greatest amount of information to be obtained.

Questionnaires answered by different firms in each industrial sector provided the necessary information for the model. The model can be described in terms of sales data generated from the questionnaire. This means that the input-output model is defined in terms of value. Thus, the following equation describes how the value of output from a given industry is distributed:

$$(a) \quad \sum_{i=1}^{n} v_{ij} + v_i = V_i$$

where v_{ij} is the value of output of the i^{th} industry used by the j^{th} industry;

v_i is the value of final demand for i^{th} industry's output; and

V_i is the value of gross output for the i^{th} industry.

The description and interpretation of the input-output model discussed in the previous section of this chapter remains the same; since all that has been done is to change the units of measurement.

With the increasing concern for employment related analysis, it is a simple matter to transform the input-output model into employment figures. The questionnaire data supplied the necessary employment information. The transformation to the input-output model in terms of employment is accomplished by multiplying equation (a) by E_i/S_i where E_i is the total employment of the i^{th} industry and S_i is the total sales of the i^{th} industry. Equation (a) would then describe how the employment of a given

industry is distributed over its different uses. Both of these forms of the input-output model will be presented.

The model will have the following basic framework: The interindustry flow will be divided into the 8 different sectors already used in this project. This defines the dimension of the model. The final demand component of the model, along with the impact multiplier matrix, is an integral part of the model. Thus, careful consideration was given to allow for the greatest degree of flexibility in this component. The final demands for each industry can be broken down in terms of the following: Households, both inside and outside Oceanside; military and nonmilitary; government; and industrial demands outside of Oceanside. These groups are not mutually exclusive. Therefore, some properly defined subset will correspond to the total final demand sector. An example would be Households inside Oceanside plus Exports (all sales outside Oceanside) plus government equals final demand. Obviously other combinations exist.

Obtaining the Information for the Model

As mentioned above, the information used to estimate the input-output model was obtained from questionnaires. The questionnaires provided the following information relevant to the model:

- employment
- total sales in an interval
- the percentage of total sales distributed to other industries
- final users
- the percentage of total sales to customers outside Oceanside

The sales data for a particular industry is the summation of all the sampled firms' total sales. This summation requires an estimate for each firm's total sales. The estimate used will be the midpoint of the total sales interval provided by each firm when answering the questionnaire. Those firms that failed to supply a total sales interval had a total sales figure imputed to them, corresponding to their employment size and the sales of other firms of the same size in the industry. In order for the input-output model to accurately reflect the Oceanside economy, the interindustry sales within Oceanside were computed by determining the interfirm sales within Oceanside and summing them to get interindustry sales. The interfirm sales were derived by multiplying together the following terms: the percentage of sales sold to a given industry, the percentage of total sales to customers inside Oceanside, and the total sales of the firm. The sum of the interfirm sales for an industry is equal to the interindustry sales.

The final demand components for each industry were then obtained by summing up the individual firm's components. For a given firm we had already estimated its total sales. Thus, to find the different components of final demand, the appropriate percentage of total sales was multiplied by the total sales figure for the firm. As a simple example, consider the computations involved in deriving the final demand by the government sector for a particular industry. The value of the firm's output going to the government sector is equal to the percentage of

sales that went to government by a given firm multiplied by that firm's total sales. The summation of all the firms within the industry yields the final demand by the government sector. The other components involved slightly more arithematic manipulations, but the basic idea is the same.

Overall Structure of the Model

The structure of the Oceanside model corresponds to the format discussed earlier in this chapter. The transaction matrix, which is an essential element in generating the impact multipliers, will have 8 rows and columns corresponding to the appropriate industries. Each cell in the matrix defines the flow of sales between Oceanside's industries. Therefore, the impact multipliers which are determined by transforming the transaction matrix will reflect the strength of the interrelationships that exist in the Oceanside economy. The final demand sector has also been defined to focus on the components that are relevant to the Oceanside economy. Therefore, the military, government and inside-outside Oceanside household sectors were included.

A word of caution should be introduced here. The methodological considerations and problems have already been discussed. The estimation of the model requires the use of real data. Therefore, the estimates obtained are only as good as the data used. The data base for this model is the set of questionnaires referred to earlier. This was a single, one-time period sample and composed the entire sampling base. The aggregation method

used implies that market shares of existing firms are constant and it ignores the flow of firms into or out of an industry. It is important to recognize the existence of the above when studying and using the model. Each of these above areas can be examined with further analysis.

THE OCEANSIDE INPUT-OUTPUT MODEL

The estimation of the Oceanside Input-Output Model was based on the techniques, both theoretical and empirical, discussed in the previous two sections. The entire model is contained in Table 4.5. The model is divided into two broad categories of demand for an industry's output; these are interindustry demand and final demand. The interindustry demand portion is subdivided into the eight industries used throughout the report. They are Construction; Manufacturing; Trade (Wholesale, Retail); Finance, Insurance, and Real Estate; Utilities, Transportation, and Communications; Services (Personal Care, Repair, etc); Tourist (Hotels, Restaurants, Bars, etc.); and Agriculture (Agriculture services, Agriculture products, fishing). The final demand category has been designed to allow for greater insight into what set of final demanders are receiving in industry's output. This was accomplished by dividing the total final demand into Inside Oceanside Households; Outside Oceanside Households; Federal, State, or Local Government, and Exports to industries outside of Oceanside. These different demands sum up to the final demand for a given industry. In order to capture

the influence of the military household community, a separate category was computed. To make sense out of this sector the total final demand must be looked at only in terms of military and nonmilitary components.

Interindustry Demand

The interindustry flows represent the demand for Oceanside's industry output by Oceanside industries. Each row corresponds to how a particular industry allocates its output to the industries. Therefore, a cell, which is determined by the intersection of a row and column, tells how much of the row's output is going to a column industry. Each cell contains four numbers. The number at the top is an employment measure of output. It denotes the number of employees in the row industry used to produce the output supplied to the column industry. Thus, the service industry uses approximately 14 employees to supply the output demanded by the trade industry. The next number is also a measure of how a row industry allocates its output. This time the unit of measurement is the dollar value of output (sales in millions of dollars). The trade industry sold 1.1878 million dollars worth of output to the manufacturing industry.

The next two numbers can be looked upon in terms of either sales or employment since the numbers themselves are independent of units of measurement. The first of these numbers is the input coefficient (the direct effect) for the row industry. It reflects, in terms of sales, the value of output from the row

industry used to produce one million dollars worth of output by the column industry. The tourist industry requires .0029 million dollars worth of output from the construction industry in order to produce one million dollars worth of output. Again, this could be phrased in terms of labor units. The bottom number in each cell is the impact multiplier. The computation of this number provides the basis for the analysis of the economic structure under study in Oceanside. The multiplier indicates the number of jobs created in the row industry when the column industry hires one additional worker. Thus, if the service industry hires an additional one hundred workers due to a change in its final demand, the impact on the Finance (FIRE) industry will require the hiring of thirteen additional workers. To estimate the total impact which these additional workers from the service industry have on the Oceanside industrial community, the number of additional jobs (100 in this case) is multiplied by the sum of the individual column impact multipliers (given at the bottom of the table, labeled Total Impact Multipliers). The total number of jobs created for this example would be 129 (1.29 x 100). Of this total increase, 100 came from the service industry's initial action and 29 were created in response to the action by all of the industries in the system.

The information contained in this portion of the input-output model can be beneficial for understanding the makeup of the Oceanside economy. Take the following illustration as an example: Suppose that a new resort motel complex was to be

built in the Oceanside area and would initially generate 250 new jobs. This information could be used, with existing constraints, to determine the impact it would have on the Oceanside economy and to measure the desirability of having the new motel. The constraints might be capacity problems occurring in other industries or environmental considerations. The Oceanside input-output model would estimate that the project would create 276 new jobs for the entire city. Looking individually at the different industries, the impact on each could be determined in terms of direct and total employment figures.

Final Demand

The final demand figures make up the remaining portion of the input-output model. Each cell contains two numbers. The top number refers to the number of employees used by the row industry to produce the output demanded by the column component of final demand. The Government Sector demanded the output supplied by 110 employees of the construction industry according to Table 4.5. The bottom number represents the value of output demanded by the different final demand sectors. This value of output measure is the amount of total sales that goes to a particular component of the final demand sector. Thus, 1,945.2 million dollars of output from the service industry was exported to industries outside of Oceanside.

The Oceanside Input-Output Model presented in Table 4.5 provides a breakdown of each industry's sales or employment into as many as 12 different components. This decomposition of sales con-

tains the information necessary for understanding the economic structure of Oceanside. Each industry's direct influence on a particular sector is readily available by analyzing the relevant sales, employment or input coefficient number (for inter-industry demand only). For example, the Tourist industry sells only a small portion of its output to other Oceanside industries. The vast majority of its output is sold to Households (inside and outside Oceanside). This type of analysis can easily be performed for each industry.

Illustrative Uses of the Model

In this portion two different scenarios concerning possible industrial growth in Oceanside will be analyzed using the input-output model. This will be done in order to familarize the planner with the mechanics of using the model and also to provide him with a description of the possible impact this growth could have on Oceanside's economy. The first scenario will involve the manufacturing industry and the hiring of an additional 125 employees. The second scenario will involve the tourist industry and the hiring of an additional 350 employees. It is assumed that the new firms would begin operation at the particular employment level given above.

If the manufacturing industry hired an additional 125 workers, the total impact on employment would be 134 jobs (1.0737 x 125). This total could be divided into the 125 initial workers hired and 9 workers hired as a result of the expansion. These 9 workers would be distributed to the fol-

Table 4.5

Oceanside Input-Output Model

	Interindustry Demand								Final Demand						
									Household			Exports			
	Const	Manuf	Trade	FIRE	Utilit	Serv	Tours	Agr	In Ocean	Out Ocean	Gov't	(Indust)	Total	Milit	Total
Construction	14.68	3.58	0	0	0	1.50	.39	0	13.33	14.99	109.75	108.76	246.83	4.43	267
	.631	.1541	0	0	0	.0646	.0167	0	.5735	.6445	4.7186	4.676	10.6126	.1903	11.4790
	.0550	.0030	0	0	0	.0139	.0029	0							
	1.0585	.0033	.0001	.0001	.0002	.0152	.0033	.0002							
Manufacturing	14.58	42.29	4.72	.22	.39	.08	.08	.76	21.95	7.02	244.8	1433.09	1706.86	1.87	1770
	.4223	1.2246	.1367	.0064	.0112	.0022	.0022	.0219	.6358	.2033	7.0904	41.5026	49.4321	.0542	51.2596
	.0369	.0239	.0031	.0003	.0031	.0005	.0004	.0051							
	.0402	1.0247	.0035	.0003	.0037	.0015	.0006	.0054							
Trade	7.32	17.57	61.53	.1	.42	4.03	.57	2.56	235.65	125.60	6.65	181.97	549.83	117.66	644
	.4951	1.1878	4.1605	.0069	.0281	.2727	.0387	.1728	15.9285	8.4900	.4498	12.3002	37.1685	7.9536	43.5311
	.0431	.0232	.0956	.0003	.0077	.0586	.0007	.0401							
	.0521	.0265	1.1063	.0006	.0105	.0679	.0012	.0453							
FIRE	16.95	6.10	1.29	18.32	1.09	5.08	1.55	0	76.37	57.08	0	27.17	160.62	47.16	221
	1.75	.63	.133	1.8917	.1125	.525	.160	0	7.8861	5.8939	0	2.8053	16.5853	4.8699	21.7875
	.1524	.0123	.0030	.0868	.0310	.1128	.0278	0							
	.1786	.0146	.0048	1.0955	.0404	.1317	.0332	.0019							
Utilities	.33	6.39	.37	0	20.88	7.05	0	.30	40.67	25.05	26.00	42.96	134.68	38.20	170
	.0070	.1364	.0079	0	.4456	.1504	0	.0065	.8676	.5346	.5547	.9167	2.8736	.8152	3.6274
	.0006	.0027	.0002	0	.1228	.0323	0	.0015							
	.0011	.0032	.0005	.0001	1.1404	.0380	.0001	.0022							
Service	3.46	.76	14.18	3.18	1.48	6.44	.50	2.43	62.24	29.03	6.68	93.63	191.58	37.04	224
	.0718	.0158	.2945	.0660	.0308	.1339	.0103	.0505	1.2930	.6031	.1387	1.9452	3.9800	.7695	4.6536
	.0062	.0003	.0068	.0030	.0085	.0289	.0018	.0117							
	.0077	.0006	.0078	.0034	.0102	1.0311	.0021	.0124							
Tourist	5.53	1.70	5.36	5.22	1.73	2.19	19.95	0	125.69	93.15	1.09	81.38	301.31	57.28	343
	.0928	.0285	.09	.0875	.0290	.0367	.3346	0	2.1081	1.5624	.0183	1.3650	5.0538	.9608	5.7529
	.0081	.0006	.0021	.0004	.0080	.0079	.0582	0							
	.0097	.0008	.0025	.0005	.0098	.0093	1.0619	.0002							
Agriculture	0	0	0	0	0	0	.54	0	4.77	9.69	.80	292.27	307.53	3.61	308
	0	0	0	0	0	0	.0076	0	.0668	.1357	.0112	4.0923	4.3048	.0506	4.3125
	0	0	0	0	0	0	.0013	0							
	0	0	0	0	0	0	.0014	1.0000							
Total Impact Multipliers (Sum of Inverse Coefficients)	1.3479	1.0737	1.1255	1.1005	1.2152	1.2947	1.1038	1.0676							

Note: Sales measured in millions of dollars.

lowing industries: Construction (1/2), Manufacturing (3), Trade (3), FIRE (2), and Utilities (1/2). The impact on the remaining industries is negligible.

Consider an increase in the tourist industry of 350 workers; the total impact, also, could be divided into the 350 initial workers hired and the 36 workers hired as a result of the interactions in the economic system. These 36 workers would be distributed to the following industries: Construction (1), FIRE (12), Tourist (22), and Agriculture (1/2). The impact on the remaining industries is negligible.

Both of these scenarios illustrate, how, through the multiplier effect, expansion in one industry affects other industries, including itself, in terms of generating new jobs.

EVALUATION AND INTERPRETATION OF MODEL

An input-output model is a tool and should be used as such. It is one among many tools available to the decision maker which can aid him in making a comprehensive analysis of a planning or redevelopment project. The usual shortcomings attributed to input-output models more often than not are a result of the assumptions made in developing the model. Even though these assumptions might restrict the realism of the model, they do amplify the basic interrelations that exist in the system. A more realistic model (one which incorporated a different production technology, a dynamic structure, etc.) would definitely be more expensive to estimate; and the improvement

in the quality of the estimates might not warrant the expenditures the new model would require. Therefore, in order to obtain the full benefit of this input-output model, the application of its information must be handled properly.

The model provides a disaggregated look at the flow of resources between the different sectors in the Oceanside economy. The interdependence behind the different industrial sectors is moderate. The information within the model reflects the high degree of integration that exist between Oceanside and the surrounding areas. This is seen by looking at the industrial exports component of final demand. An overview of Oceanside's interindustry demands reveals no unusually large interrelationships. However, the interplay between the industries is more along the lines that would be expected. An example of this is the relationship that exists between the FIRE industry and the other industries. (The FIRE industry shows an expected connection with the other industries.) This can be seen by looking at either the input coefficients or multipliers along the FIRE industry row.

Inspection of the impact multipliers, especially the Total Impact, implies that no particular industry dominates in terms of its impact on the Oceanside economy. This information could prove to be valuable in several ways. An unexpected shift in the final demand for any of the industries' output will not cause a disproportionate change in the remaining industries. It appears then that Oceanside need not be concerned about the

boom and bust problems that exist in a one-industry economy. From a planning standpoint, equal stimulation of the industrial sectors would maintain the basic industrial structure that is present now. The largest individual Total Impact Multiplier was 1.3479 for Construction and the smallest, 1.0676 for Agriculture. This range of multipliers is not significantly large. Therefore, given the magnitude of the Impact Multipliers, potential problems concerning capacity limits in an industry can be dealt with in a systematic and straightforward fashion. This is because exogenous shocks to the system will not induce unusually large responses by the industry. Thus, as the industry grows, plans can be made to deal with the new situation in an efficient manner.

The final demand sector results correspond with expectations. The Government and Military are important demanders of Oceanside Industrial Output. This is no surprise. Those industries geared for inside Oceanside consumption (e.g. FIRE, Trade, etc.) reflect this conclusion. Likewise, those industries whose demanders would be outside Oceanside (e.g. Manufacturing, Agriculture, etc.) also reflect this conclusion.

To use this information properly, it is important to understand the role of the input-output model in forecasting. If it is expected that the economy is going to change in a stable fashion over the short run, then the input-output model can be an integral component in forecasting. However, if the economy

is likely to be affected by violent exogenous shock or technological changes, the benefit of the input-output model is severely restricted. Also, the longer the planning period is extended, the less chance there is for the model to correctly specify the true flow of resources in the system.

Another use of the input-output model is to project the feasibility of obtaining given employment levels by a certain time. Population growth rate projections for Oceanside and surrounding areas indicate that it will be of critical importance to determine whether or not the economy can absorb these extra workers into the system smoothly. The input-output model can provide much of the needed information required for this type of analysis.

The Oceanside input-output model describes in quantitative terms the linkages that exist between the different industrial and final demand sectors. This knowledge is essential if worthwhile productive planning for Oceanside is going to take place.

Conclusion

Numerical estimates of Oceanside's economic structure are contained in the input-output model presented in this chapter. This model affords to the planner tangible insight into the description of the existing economy. This quantification of the interrelationships between sectors enhances the understanding of the potential effects distrubances will have on the community. In terms of economic redevelopment,

planning or employment objectives, this information is essential. The impact that different scenarios might have on the community can be seen through implementation of the input-output model; the range of scenarios feasible for input-output model use is limited only by the imagination.

The input-output model is estimating only one piece of a complex community puzzle. It provides insight into certain areas and is not applicable to others. The model itself is unable to distinguish between these areas, and since the decision maker takes on this responsibility, its value is directly related to how well this task is accomplished. When this is kept in mind, the potential of the model is significant.

CHAPTER 5

OCEANSIDE TOURISM

VISITORS TO OCEANSIDE

Oceanside, because of its coastal location, has the potential for becoming a thriving tourist destination. It has a moderate climate year-round, the only small-craft harbor between Mission Bay and Dana Point, a Cape-Cod-theme village of shops and restaurants, the largest of the California missions, and a strong civic interest in promoting tourism. In addition, Camp Pendleton is an asset which draws a number of visitors to the area each year, as well as providing an open-space buffer against Orange County growth.

At present, much of Oceanside's tourist potential is unrealized. There is little to keep visitors occupied for more than an hour or two. The once sandy beach has eroded almost continuously since the harbor breakwater was constructed. There are no facilities within Oceanside for recreational vehicles or other types of campers, although an area is now being developed. Except for persons visiting relatives in the area, or Canadians looking for a warm winter climate, Oceanside represents at present little more than a rest stop between San Diego and Anaheim/Los Angeles.

Grouping all visitors by accommodation type, Oceanside is influenced by three tourist types. These are hotel/motel guests,

visitors staying in private households, and day visitors. The long-term visitors -- those who come from the cold climates and rent condominiums or apartments for longer than thirty days -- represent a significant group in the winter months. However, by their behavior and expenditure patterns, they cannot be differentiated from residents and they are excluded from standard tourist definitions.

Hotel/Motel Guests

Although Oceanside has some appeal as a winter tourist area, more than 37 percent of the annual hotel/motel revenue is generated in the third quarter (July-September) of the year. In 1976, total hotel/motel revenue was $2.2 million. Based on an average room rate for the area of $17.50, this translates into 128,000 room nights or 295,000 visitor nights. Surveys conducted throughout San Diego County indicate the typical hotel guests spent $26.00 per day in 1976. Thus, the total spending by Oceanside hotel guests amounted to approximately $7.7 million, which includes the $2.24 million spent on lodging. Table 1 illustrates this calculation:

Table 1

Hotel/Motel Guest Visitor Days

		Total 1976
a.	Hotel/Motel Room Sales Revenue	$2,241,865
b.	Average Room Rate	$17.50
c.	Total Occupied Room Nights ($\frac{a}{b}$)	128,107
d.	Total Visitor Nights (c x 2.3 persons per room)	295,000
e.	Total Hotel/Motel Visitor Spending (d x $26.00)	$7,670,000

In comparison with other cities in San Diego County, Oceanside's hotel/motel business has been growing quite slowly. A review of transient occupancy tax revenue collected between 1972 and 1976 indicates that Oceanside's revenue grew at an annual rate of 12 percent. The average rate of growth for the County as a whole was 20 percent. The change in revenue can be caused by a change in room rates as well as a real change in occupancy levels, but since all areas are equally likely to have had hotels that increased their rates, the tax revenue data is likely to provide a good relative measure of growth.

Of the six coastal cities in the County, Oceanside ranks fourth in terms of growth in occupancy tax revenue. Coronado (+30%), Carlsbad (+25%), and San Diego (+21%) each had higher annual rates of growth between 1972 and 1976. Oceanside, Del Mar, and Imperial Beach registered annual rates of growth of 10 to 12 percent per year. Table 2 presents the tax revenue data for Oceanside and other cities in the County.

Overnight Guests in Private Households

A survey of Oceanside households carried out as one task of this project indicated that two-thirds of Oceanside households had overnight guests during 1976. Almost half of the households had guests during the first five months of the year. Table 3 indicates the volume of home visitors during 1976 and their impact in terms of spending.

Table 2

TRANSIENT OCCUPANCY TAX COLLECTIONS

	1972-1973	1973-1974	1974-1975	1975-1976	Estimated 1976-1977	ANNUAL COMPOUNDED RATE OF INCREASE
CARLSBAD	124,792	195,953	209,818	279,385	300,000	+25%
CHULA VISTA	71,924	88,406	108,704	125,570	130,000	+16%
CORONADO	111,040	160,536	213,817	282,019	350,000	+33%
DEL MAR	17,520	18,287	19,939	26,095	26,000	+10%
EL CAJON	53,314	55,560	63,417	88,052	75,000	+ 9%
ESCONDIDO	47,250	52,232	60,922	74,814	73,500	+12%
IMPERIAL BEACH	10,472	12,729	16,184	19,034	17,000	+11%
LA MESA	-	-	-	-	15,000	-
NATIONAL CITY	12,021	13,767	15,318	17,185	22,000	+16%
OCEANSIDE	87,049	82,039	97,076	121,862	135,000	+12%
SAN DIEGO	2,265,792	3,056,929	3,576,735	4,199,429	4,845,000	+21%
SAN MARCOS	975	1,218	837	1,152	1,000	+ 1%
VISTA	7,114	11,426	16,459	19,169	22,000	+33%
COUNTY OF SAN DIEGO	259,468	221,017	273,564	299,797	325,000	+5.8%
GRAND TOTAL	3,068,731	3,970,099	4,672,790	5,553,563	6,336,000	+20%
TOTAL EXCLUDING CITY & COUNTY OF SAN DIEGO	543,471	692,153	822,491	1,054,337	1,166,000	+21%

Table 3

Overnight Visitors to Oceanside Households

	January Through May	June Through August	September Through December	Total 1976
a. Households Having Visitors	48.1%	38.2%	35.8%	67.4%
b. Median Length of Stay (Visitor Nights)	17.8	15.3	12.7	28.2
c. Total Visitor Nights (20,000 Households x a x b)	171,000	117,000	91,000	379,000
d. Total Home Visitor Spending (c x $9.50)	$1,625,000	$1,112,000	$865,000	$3,602,000

Day Visitors

Persons who visit Oceanside attractions but stay overnight outside the City, either at home or in accommodations in other areas, are day visitors. The actual volume of these non-resident visitors to Oceanside is not known and cannot be determined without a major survey. But, it is quite likely that these visitors account for less than 200,000 visitor days per year. This estimate is based partly on visitor volume at Mission San Luis Rey of 48,000 in 1976.

Day visitors are drawn primarily from other sections of San Diego County and neighboring Orange County. The chief attractions for day visitors are the harbor area, Camp Pendleton, and Mission San Luis Rey.

It is estimated that visitor days spent by Oceanside residents in other parts of San Diego County far outstrips the volume of

visitor days that occur within Oceanside. This is suggested by the information presented in Table 4. When residents of Oceanside were asked where they went for daytime or evening recreation, approximately half mentioned locations within the City. But the strong showings by both San Diego and Carlsbad indicate a large volume of activity is occurring outside of Oceanside.

Table 4

Location of Recreation Activities

	During the Day	During the Evening
Oceanside	58%	42%
San Diego	10%	16%
Carlsbad	9%	11%
Camp Pendleton	2%	1%
Vista	2%	3%
Other North County Areas	11%	5%
Outside San Diego County	1%	1%
Don't Go Out Much	5%	19%
No Particular Place	2%	2%
Total	100%	100%
Base	497	497

Based on previous research by Copley International Corporation and A.D. Little, Inc., day visitors in all parts of San Diego County

spend approximately $8.50 per person. Thus, day visitors to Oceanside are estimated to have spent approximately $1,700,000 in 1976.

Total Visitor Volume

The above analysis indicates that approximately 874,000 visitor days were spent in Oceanside in 1976. The spending by those visitors reached almost $13 million. This is illustrated in Table 5.

Table 5

Total Visitor Volume - 1976

	Visitor Days	Total Spending
Hotel-Motel Guest Days	295,000	$ 7,670,000
Overnight Household Guest Days	379,000	3,602,000
Day Visitors (estimate)	200,000	1,700,000
Total Visitor Volume	874,000	$12,972,000

The impact of visitors can be increased by either of two basic strategies. First, through heavy promotion in selected remote markets, more persons could be encouraged to visit and stay in Oceanside. During the winter, Oceanside's climate is an asset that could be exploited by advertising in colder sections of the country. Year-round, Oceanside's location between the major Southern California family attractions (Disneyland, San Diego Zoo, Sea World, etc.) could be publicized. As the recreational use of

Camp Pendleton's beach front increases, the recreation/camping market will become a point on which Oceanside promotion should focus.

The second strategy would be to provide Oceanside's visitors with reasons for staying longer. This strategy would call for strong local promotion, local discount passes, packaged activities, etc. Oceanside's existing attractions would have to be given greater visibility. New attractions should also be considered since at present the possible activities that could occupy visitor's time is a definite constraint.

The factor that provides the foundation for both promotional strategies is visitor motivation. At present, the reasons why someone would visit or stay overnight in Oceanside are limited. Development of the Guajome Park Recreation Area, increased use of the Camp Pendleton beach front and San Luis Rey Downs areas, and a solution to the beach front erosion problem would go a long way toward making Oceanside more attractive to potential visitors.

Other additions to Oceanside's visitor industry, such as the convention facility now being considered, would also increase the potential. But, the financing, construction, operation, and marketing costs associated with a convention center are quite high. And, convention facilities increase the demand for accommodations, restaurants, and convention sales and supportive services. In addition, competition in the convention business is strong. Rather than attempting to capitalize on its natural assets, the drive for

convention business would pit Oceanside against every other convention city in the State. So although convention delegates may spend more than many other types of visitors, the costs incurred in attracting and servicing them may cause them to have a negative impact.

APPENDIX A

SURVEY METHODOLOGY

The sample of Oceanside firms for the commercial phase of the economic base study was chosen by the following threefold stratification procedure.

All oceanside firms were first, classified according to SIC codes in order to determine major industrial sectors in the area. The following industries resulted from this process. These industrial classifications apply to both the economic base study and the input-output model:

- Agriculture and Fishing
- Construction
- Manufacturing
- Utilities, Transportation, Communications
- Wholesale and Retail Trade
- Finance, Insurance and Real Estate
- Services
- Tourism

Secondly, the firms were categorized according to known and unknown employment. Employment was the measure of size used to select the firms in the sample. Finally, the CIC staff randomly selected the sample of firms insuring that all employment sizes were represented. Table A.1 gives the composition of firms in each industry in the sample.

Table A-1

DISTRIBUTION OF FIRMS BY
MAJOR INDUSTRY CLASSIFICATION

Type of Industry	Number of Firms	Percent
Agriculture/Fishing	6	.02
Construction	22	.07
Manufacturing	43	.14
Trade	112	.37
Utilities/Transportation Communications	21	.07
F.I.R.E.	19	.06
Service	40	.14
Tourism	38	.13
	301	100%

Source: Commercial Survey of Oceanside Firms
Copley International Corporation

The sample of Oceanside residents for the household phase of the economic base study was chosen according to a two-stage probability technique. This process was followed so as to insure that each Oceanside household had an equal opportunity of being in the sample regardless of whether or not the applicable phone number was listed in the directory. The respondents were therefore chosen completely at randon.

A list of all telephone prefixes plus the 4 digit were arrayed and weighted according to their frequency of occurrence. The last 3 digits of each telephone number in the sample were generated independently from a table of randomly distributed numbers. While a goal of 50% male and 50% female was originally planned, the actual results of the survey show a sample of approximately 46% male and 54% female.

Further information concerning the household and commercial surveys is included in the pretest results. A copy of the final questionaires is included in Appendix B, which follows.

APPENDIX B

HOUSEHOLD AND COMMERCIAL SAMPLE QUESTIONNAIRES

OCEANSIDE BASE STUDY # 628 - - COMMERCIAL PHASE

Office Use:

CASE _____

Firm _____

Street _____

Phone _____ Attempt 1 _____

Attempt 2 _____

Attempt 3 _____

Attempt 4 _____

Hello, I'm _____ calling for the City of Oceanside. I am working on an economic base study and would like to speak to someone in your company who could answer a few questions about your business.
(IF RESPONDENT IS QUALIFIED, GO TO Q-1)
(IF ANOTHER PERSON IS CALLED TO THE PHONE, SAY:) Hello, I'm ____ calling for the City of Oceanside. I am working on an economic base study and would like to ask you a few general questions about your business.

1. First, at the present time, how many persons are employed by your firm at this location? (ALL PERSONS, INCLUDING OWNER)

   Full-time _____
   Part-time _____ (less than 20 hours per week)

   D&B _____ 1___ 2___ 3___

2. About how many of these employees live within the City of Oceanside?

   Full-time _____ 19 DK 4___
   Part-time _____ 19 DK 5___

3. About how many of these employees are from military households? 6___

   Full-time _____ 19 DK 7___
   Part-time _____ 19 DK 8___

9___

4. How many square feet of floor space, that is, space under the roof not counting parking or other exterior space, does your company occupy? (INCLUDE ALL BUILDINGS AT THIS LOCATION)

   10___

   Square feet _____ ; or _____ feet by _____ feet

5. Which of the following groups includes your company's total sales volume in dollars for 1976? (FOR THIS LOCATION)

   1 Less than $25,000
   2 $25,000 to $49,999
   3 $50,000 to $149,999
   4 $150,000 to $299,999
   5 $300,000 to $499,999
   6 $500,000 to $749,999
   7 $750,000 to $999,999
   8 $1.00 to $2.49 million
   9 $2.50 to $4.99 million
   10 $5.00 to $9.99 million
   11 $10.00 million or more
   20 DK/NR

   11___

   D&B

6. About what percent of your company's 1976 sales went to the following types of customers?

a. Households and other final consumers (SHOPPERS, ETC.) _____%*** 12

b. Construction. . . . . _____ 13

c. Manufacturing . . . . . _____ 14

d. Trade(WHOLESALE/RETAIL) . . . . . _____ 15

e. Finance, Insurance, & Real estate . . . . . _____ 16

f. Utilities, Transportation, & Communications . . . _____ 17

g. Services (PERSONAL CARE, REPAIR, ETC.) . . . . _____ 18

h. Tourist industry(HOTELS,RESTAURANTS, BARS, ETC.). . _____ 19

i. Agriculture (INCL. AG. SERVICES, AG.PRODUCTS & FISHING) _____ 20

SHOULD ADD TO 100 ---------- _____

***(IF A PERCENTAGE OF SALES GOES TO HOUSEHOLDS OR OTHER FINAL CONSUMERS, ASK 6a & 6b)

6a. Of the amount that is sold to final consumers, about what percent goes to military households?

Portion to military households/persons _____% 21

6b. Of the amount that is sold to final consumers, about what percent goes to residents of the City of Oceanside? (BOTH MILITARY AND CIVILIAN RESIDENTS)

Portion to Oceanside residents _____% 22

7. What percent of your company's total sales for 1976 went to customers located outside of the City of Oceanside?

Portion of TOTAL sales outside Oceanside _____% 23

8. What portion of your company's total sales went to agencies of the Federal, state, or local government?

Portion of TOTAL sales to government _____% 24

9. Finally, thinking about the raw materials or supplies that your business consumes in producing your goods/services, about what percent of your company's purchases come from the following types of of industries? (FOR EACH TYPE, ASK:) What portion of this comes from outside the City of Oceanside?

	TOTAL		OUTSIDE OCEANSIDE	
a. Agriculture (AG. SERVICES, AG. PROD.,& FISH.)	%25			26
b. Construction	27			28
c. Manufacturing	29			30
d. Trade (WHOLESALE/RETAIL)	31			32
e. Finance, Insurance, & Real Estate. . . .	33			34
f. Utilities, Transportation, & Communication .	35			36
g. Services (PERSONAL CARE, REPAIR, & ETC.) . .	37			38
h. Tourist Industry (HOTELS, REST.,BARS, ETC.) .	39			40
Other sources?_____	41			42

RESPONDENT _____

TITLE/POSITION _____

Office Use

SIC _____ 43

Interviewer _____

Oceanside Base Study #628

Office Use:

Case No. _____

Hello, I'm _____ and I am working on an economic study for the City of Oceanside. I would like to find out about where members of your household work and shop. I would also like your opinion on several local issues.

1. First, how long has your household lived in the City of Oceanside?

1	Less than 1 year	4	Over 5 to 10 years	
2	1 to 3 years	5	Over 10 to 20 years	
3	Over 3 to 5 years	6	Over 20 years	1__
		7	DK/NR	

2. Where did you live before you moved to Oceanside?

8	Elsewhere in San Diego County
9	Los Angeles or Orange County
10	Somewhere else in California
11	Outside of California
12	Always lived in Oceanside
13	DK/NR

2__

3. Overall, how satisfied are you with Oceanside as a place to live? Would you say you are ... (READ CHOICES)

1	Very satisfied (GO TO 4)	3	Somewhat dissatisfied	
2	Somewhat satisfied (GO TO 4)	4	Very dissatisfied	3__
		5	DK/NR	

3A. (IF DISSATISFIED, ASK:) What are some of the things about Oceanside that tend to make you feel dissatisfied with it as a place to live? _____

_____ 4__

5__

_____

_____

4. The subject of growth is often mentioned as an important local issue. Do you feel that Oceanside is growing too fast now, too slow, or at about the right rate?

11	Too fast	13	About right
12	Too slow	14	DK/NR

6__

5. Cities provide many types of public services and facilities such as police and fire protection, parks, schools, hospitals, and transportation. Are you satisfied with the amount of public services available in the City of Oceanside or not?

__1__ Yes (GO TO 6)
__2__ NO (IF NO ASK 5A &5B)

5A. What services or facilities do you feel need the most improvement? (PROBE) 7__

_____

_____ 8__

_____ 9__

5B. In order to improve on these public services or provide additional services, it could be necessary to increase property taxes. Would you be in favor of more public services even if it could result in higher property taxes?

__1__ Yes
__2__ No 10__
__3__ DK/NR

6. Some cities require that home builders pay fees to help cover the cost of new streets, sewers, schools, fire stations, or other services in new housing areas. In your opinion, should Oceanside require builders to pay these fees or not?

__1__ No (GO TO 7)
__*__ Yes (IF YES, ASK) If builders had to pay these fees, the prices of new homes would increase. Do you still feel that builders should pay these fees? 11__

__2__ Yes __3__ No
__4__ DK/NR

7. As new housing is constructed in Oceanside, do you feel there is a greater need for housing for ...
(READ CHOICES IN RANDOM ORDER - ONE ANSWER ONLY)

__5__ Upper income families
__6__ Middle income families 12__
__7__ Lower income families
__9__ DK/NR

8. What proportion of the new housing to be built in Oceanside should be rental housing such as apartments or townhouses? Should it be...
(READ CHOICES IN RANDOM ORDER)

__1__ A larger share than in the past
__2__ About the same share, or 13__
__3__ A smaller share than in the past
__4__ DK/NR

9. Thinking about shopping now...In addition to Oceanside, there are a number of areas such as Carlsbad, Camp Pendleton, Vista, or San Diego where Oceanside residents may go to shop. When you shop for (READ LIST) where do you usually go?

a. Food or grocery items _____ 14_
b. A new or used car _____ 15_
c. Clothes or other softgoods* _____ 16_
d. Furniture, appliances, or housewares* _____ 17_

(* If Carlsbad or Escondido is mentioned in C & D, ASK: Do you go to the shopping center or downtown?

C. 1 Escondido 2 Esc. Village Mall 3 Carlsbad 4 PlazaCamino Real

D. 5 Escondido 6 Esc. Village Mall 7 Carlsbad 8 PlazaCamino Real

10. Where do you go to have your car repaired? _____ 18_

11. Where are you most likely to go for recreation during the day? _____ 19_

12. Where are you most likely to go for recreation at night? _____ 20_

13. Thinking about recreation, sometimes people have relatives or friends visit from other places. During the past year, did you have any visitors from outside San Diego County who stayed overnight in your home?

2 No (GO TO 14) 21_
1 Yes (IF YES, ASK) How many of these visits occurred between... (READ LIST)

	Number of Visits	Persons per Group	Nights Stayed Per Group
a. January & May (Memorial Day)			
b. June & August (Labor Day)			
c. September & December			

OFFICE USE:
VISITOR DAY
TOTAL a._____ b._____ c._____
22 23 24

Finally, in order to classify your answers with others in our survey, I need to know the following:

14. Do you live in a house, an apartment, or some other type of dwelling?

* House; Do you 1 own or 2 rent?
* Townhouse/Condo; Do you 3 own or 4 rent?
5 Apartment
* Twin home/Duplex; Do you 6 own or 7 rent?
8 Trailer/Mobile home
9 Other
10 DK/NR

25_

15. Counting yourself and any infants, how many persons are presently living in your household?

Total persons_____ 26_

Total under 18 _____ 27_

16. What is the occupation of the head of the household?

_____

6	Housewife	10	Student	
7	Retired	11	Unemployed, looking for work	28_
8	Service	12	Disabled	
9	Military	13	Unemployed, not looking	
		19	DK/REF.	

17. If any other household members are employed either full or part time, what are their occupations? (LIMIT TO PERSONS 18 OR OVER)

a._____ 29_

b._____ 30_

c._____ 31_

d._____ 32_

18. (FOR EACH EMPLOYED PERSON, ASK:) Does that/each person work full or part time? Does that/each person work in the City of Oceanside or in one of the surrounding areas?

H-head	1 Full	2 Part 33_	5 O-side	Other_____	34
a.	1 Full	2 Part 35_	5 O-side	Other_____	36
b.	1 Full	2 Part 37_	5 O-side	Other_____	38
c.	1 Full	2 Part 39_	5 O-side	Other_____	40
d.	1 Full	2 Part 41_	5 O-side	Other_____	42

19. Which of the following groups contains the age of the head of the household?

1	18 to 24	4	50 to 64
2	25 to 34	5	65 or over
3	35 to 49	6	DK/NR

43_

21. Was your household's total income for 1976 from all sources over or under $10,000?

* Under (ASK) Was it 2 over or 1 under $5,000?

* Over (ASK) Was it over or under $20,000?

6 DK/NR 3 Under $20,000 44_

* Over (ASK) Was it 5 over or 4 under $30,000?

Thank you.

INTERVIEWER RECORD:

Sex of Respondent 1 Male 2 Female 45_

Name of Respondent _____

Phone number _____

Interviewer name _____

APPENDIX C

CENSUS DATA

The 1975 Special Census is the source of the majority of Census Data pertaining to Oceanside households. In some cases, this source was used in conjunction with the 1977 Oceanside household survey, described previously in Appendix A, for a more complete analysis. The Census tape consisted of two major parts:

- Location of households according to census block and tract
- A questionnaire which consists of demographic information

The actual questionnaire used is included for review at the end of this appendix. 23,455 households were candidates for the 1975 survey.

Analysis of the Census Data was based on the Statistical Package for the Social Sciences, SPSS,* computer program. To insure meaningfulness of results, the data were analyzed in the following three-step sequence:

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*Norman H. Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent, Statistical Package for the Social Sciences, 2nd edition, (New York: McGraw-Hill Book Company, 1975).

1. All vacant households were first separated from the master file since they did not respond to the demographic questionnaire. Therefore, their nonresponses were excluded from the results.

2. The SPSS system was then used to tabulate all responses and calculate all percentages in the appropriate frequency distributions. This procedure was accomplished for each piece of data on the Census tape.

3. Crosstabulations were finally performed for the demographic questionnaire in order to determine more specific information (such as the employment characteristics and occupations of Oceanside residents). The results of these crosstabulations are discussed at length in Chapter Two's text on the socioeconomic characteristics of the Oceanside community.

As a basis of comparison, the results of the 1975 Special Census for residents of Oceanside were coupled with Census data for San Diego County. Some of the more important areas of comparison in Chapter two are:

- Population growth in Carlsbad and Escondido
- Retail sales in Carlsbad and the County as a whole
- Age and sex of San Diego County residents
- Racial distribution in Carlsbad, Escondido, and San Diego County
- Type of housing in San Diego County
- Length of residence in San Diego County
- Labor force characteristics in Carlsbad and San Diego County
- Income in San Diego County

The 1975 Special Census demographic questionnaire is shown on the following pages. It should be noted that the map on the final page of this appendix is a reference to question 3 which asks the geographic area of work. (The actual distribution of employment by location of work is shown earlier in this report in Table 2.15.)

APPENDIX D

CASH SURVEY METHODOLOGY

CASH

The San Diego Union and Evening Tribune Continuing Analysis of Shopping Habits is a consumer survey conducted by telephone with 2,400 different San Diego County households each year. Each month, interviews are obtained with a random sample of adults from 200 households representing a cross-section of the county households. From this data base, approximately 230 Oceanside households were sorted out and separately analyzed.

SAMPLE DESIGN

A two-stage probability sample was used to insure that each telephone household in the country (Major Statistical Areas 0 through 4) has an equal opportunity of being included in the survey regardless of whether their phone number is listed or not.

The first step necessary in generating a list of telephone numbers is to divide the standard seven digit number into two parts. The first three digits -- for example, 454 -- occur in the county with a measurable frequency. In addition, the numerals in these three digit

groups are dependent on each other, on the location of the telephone within the county, and, in some cases, on the use of the telephone. A complete list of the valid three-digit combinations and their frequency of occurrence in the sample area is prepared annually. This list provides a framework for construction of the telephone sample list which is prepared every three months. The last four digits of every phone number are independent and are generated from a table of randomly distributed numbers. The use of random digits insures that unlisted phone numbers or newly established numbers will be properly represented in the sample.

Once the sample list is generated, the phone numbers are reviewed and compared with valid listed numbers in order to remove numbers that fall within the obvious blocks of unused or commercial numbers. The final list of numbers is used for three consecutive interview waves and then replaced.

QUESTIONNAIRE

The CASH is designed to obtain household purchasing patterns for a selected list of retail products. In addition, demographic information is obtained for all households surveyed.

DATA COLLECTION

The interviewing is conducted by an independent interviewing service. This service uses professional interviewers

calling from a centrally located telephone room. All interviewers are monitored randomly during the interview period, and 10 percent of the respondents are called back to verify that an interview took place.

The interviews are conducted during a six-day period each month between 3:00 p.m. and 8:30 p.m., Monday through Friday, and 10:00 a.m. to 6:00 p.m. on Saturday. Each sample telephone number is attempted four times over a two-day period before a substitute is allowed. The respondent in each case must be an adult randomly selected within the household using a modified version of the Troldahl-Carter Selection Method. When persons other than the designated individual are contacted, an appointment is made for a callback to interview the proper person. At no time during the interview is the respondent given the identity of the study's sponsor.

DATA PROCESSING

Upon completion of the interviewing, all questionnaires are edited for consistency. Any omissions or inconsistencies are followed up by calling the respondent and clarifying the answer. As noted earlier, 10 percent of the respondents are recalled to verify that an interview actually took place. All questionnaires are coded for entry into the computer and spot checked for accuracy.

The coded questionnaires are entered in a DEC system 10

computer via a remote teletype terminal. The data are stored on magnetic discs for one year and transferred to magnetic tape after that time.

SUPERVISION

All phases of the CASH study are proposed and supervised by the Marketing Services Department of the Union-Tribune Publishing Company. The survey is designed and administered by Copley International Corporation. Interviewing is conducted by Hazel Elder Enterprises, Inc.